



# College AND UNIVERSITY Business

**MARCH 1952: Is U.M.T. the Answer ★ Unit Cost Analysis ★ Use  
of Power Mowers ★ Solving Employee Problems ★ Calculating  
Fixed Overhead Charges ★ College Landlady and the Courts**



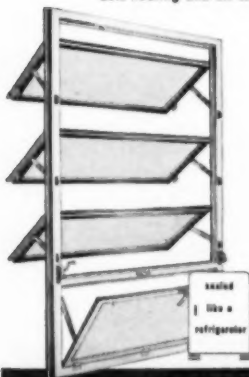
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New Primary School, Deerfield, Ill. Kindergarten room is one of eight classrooms grouped in the wing at the left in exterior photo. Gym-cafeteria unit is in the center, the administrative wing on the right. Exterior finish is colonial red brick with Indiana Limestone trim.

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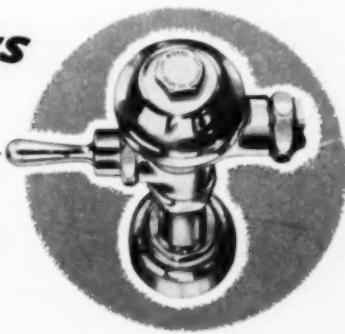
rooms to conserve space—the Deerfield school may well serve as a prototype for many other schools its size. Since materials and equipment used in the building had to meet highest standards of quality and durability, it is only logical that **SLOAN Flush VALVES** were installed throughout—another example of preference that explains why...

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## Among the Authors



Francis H. Horn

FRANCIS H. HORN, executive secretary of the department of higher education of the National Education Association, clarifies on page 19 the many issues and factors involved in universal military training as it may influence higher education. His position with N.E.A. has given him an unusual opportunity to observe many of the negotiations now under way in regard to U.M.T., and his extensive travel in recent years has given him an appreciation of international affairs and its effect on higher education. Before accepting his present position in the fall of 1951 he was dean of McCoy College at Johns Hopkins University and director of the university's summer session. He has written extensively for educational journals and has supplemented his writing with extensive travel in Europe, the Near East, and North Africa. His travel itinerary looks like a Baedeker guide.



Paul K. Nance

PAUL K. NANCE, treasurer and controller of Oklahoma Baptist University, emphasizes on page 24 the important part that a unit cost analysis can play in budget control and adjustment. He was in private accounting work before joining the university staff and has been in his present position since 1944. He is a versatile chap, judging from his biographical data: "My favorite pastime is fishing when I have time, gardening when I am pushed, but mostly I'll settle for the latest news magazine and a stack of phonograph records. I have a taste for hot black coffee, a bright tie, ballad music, Robert Frost, the St. Louis Cardinals, and an October coon hunt. My family is composed of a wife, a 5 year old adopted son, an Irish setter, and a duck. In addition to regular duties at the university, I supply occasionally in the pulpits of Baptist churches on Sunday morning."



L. S. Woodburne

LLOYD S. WOODBURN, dean of the college of arts and sciences at the University of Washington, suggests on page 27 the method to be followed in calculating fixed overhead costs of a college or university irrespective of the size of student registration. He has been in his present position since 1950; prior to that he was an associate dean at the University of Michigan. He became a member of the faculty at the University of Michigan in 1930. In 1932-33 he did graduate work at the University of Berlin in Germany. He is the author of a book, "Faculty Personnel Policies in Higher Education," which was published by Harper & Bros. in 1950. During the same year, at the request of the Board of Higher Education of New York City, he made a study of faculty organization by-laws under a grant from the Carnegie Corporation.



Miss MacFarlane

ALBERTA M. MACFARLANE, food service consultant, discusses on page 48 the technic of recruiting, training and retaining food service personnel in institutional food service operations. For 10 years she was educational director of the National Restaurant Association and has written and lectured extensively in the field of food service operations. Last summer she taught a course in menu planning at the hotel administration school at Cornell University.

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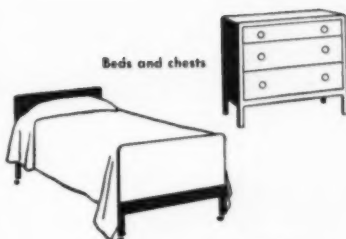
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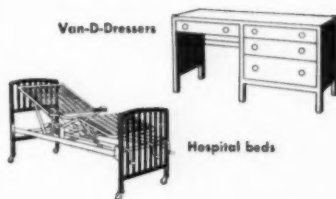
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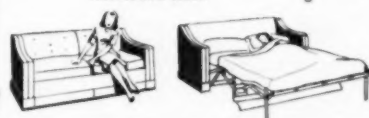
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# Questions and Answers

## Medical Insurance

**Question:** Should a college make available to students medical reimbursement and accident policy? Should it be optional or compulsory?—L.T., Mass.

**ANSWER:** Whether or not the college should consider health and accident insurance policies for students depends upon the type of institution. If the school maintains a good college health program, with hospital and medical service provided by the school, the answer is obviously No.

If the majority of students live in their own homes, right in the same community as the college, where the parents and the family medical service are available, the answer should be No unless the parents demand it.

However, students who participate in intercollegiate athletics in front of spectators who pay admission to see them perform should be covered, regardless of the type of school. I have been told that there is no legal obligation for injuries to these students, especially in public institutions. I doubt if this is true. But no one can convince me that there is no moral obligation! I feel that the college should pay the entire premium for policies to cover athletes. I also feel that participants in glee clubs, debate squads, and other groups officially representing the college outside the city should be protected by travel-accident insurance policies.

Teachers in elementary and secondary schools, and certainly the faculties of colleges, have found that physical health has a direct influence upon student learning. As a result, the public schools have accepted responsibility for physical examinations, to inform the parents about the condition of the youngsters, and for the teaching of good health habits. At the same time, colleges have been accepting more and more responsibility for the medical care of students away from home. Many colleges have actually built fine hospitals and provide full-time nursing staffs and full-time or part-time medical personnel to care for their students.

The trend seems to indicate that some kind of insurance coverage for medical and hospital expense reim-

bursement should be made available to students if inadequate facilities are provided by the college. (The semester premium is usually assessed at the same time as tuition fees.)

Now the question: Should such a plan be optional or compulsory? My personal opinion is that all such questions should be decided on the basis of the greatest good to the greatest number. If 70 or 80 per cent of the student body want the plan or if the trustees determine that such a program is needed, then I feel it should be compulsory for all. Often these optional group enterprises in social projects find those who need them most staying outside, and the institution is blamed "for leaving them out" when an emergency hits!

Another consideration for the board or the administration is the fact that the unit cost is considerably less if participation is compulsory.

If there is no alternative but to make health and accident insurance available to students on an optional basis, then this course should be insisted upon: (1) The students, not an insurance agent, should initiate the request; (2) the students should sign up from 50 to 70 per cent of the total student enrollment in advance so as to guarantee a satisfactory group policy; (3) they should thoroughly understand all of the "fine print" of the policies, especially the provision that they—the students—will have to pay 100 per cent of the premium.

When these points have been covered to the satisfaction of the board of trustees, that body must: (1) determine whether it will approve group coverage for students in the current semester only, or for future years, too; (2) select the company that will be authorized to write the business; (3) decide upon the mechanics of collecting the premiums and remitting them to the company (or else find ways and means of legally "washing its hands" of all such responsibility), and (4) provide personnel properly to protect the funds and administer the program.

—CHARLES W. HOFF, vice president, University of Omaha.

## Condensation Problem

**Question:** How can we stop moisture from condensing on the walls of the rooms in which our swimming pools are housed? Dehumidifiers are out of the question. —R.H.K., Tenn.

**ANSWER NO. 1:** Condensation results from warm air having a higher humidity content coming into contact with a surface cool enough to lower the air temperature to a point where the dew point is reached. Condensation in the form of beads of moisture accumulates on the cool surface.

It is difficult to answer the foregoing question without knowing more details of the construction of the room in which the pool is located. Is it possible to insulate the outside wall? If so, this is the best thing to do. Another possibility is to circulate air within the room, the return air being passed through a refrigerated coil, that will cool the air, thereby forming condensation that can be drained off. The air must then be heated and can be recirculated in the room.—PHILIP E. KEENE, college architect, State College of Washington.

**ANSWER NO. 2:** There is no simple solution—the very presence of condensation indicates inadequate separation between the high humidity, high temperature pool area and the lower temperature outside of the pool area. Two problems are involved:

1. A practice pool primarily for swimmers with very limited spectator capacity.

2. An exhibition pool, with a large spectator capacity.

In both cases the building must be well insulated with no direct exterior openings to the pool area, preferably no windows as such. Glass block walls may be used if daylight is essential.

Pool temperature should be constant 79° plus or minus a degree; room temperature, from 2 to 6 degrees higher. There should be no mechanical ventilation in the practice pool area. Spectator comfort would probably demand some ventilation, which should be large in volume but slow in velocity in the exhibition pool area.—E. J. BEHLER, supervisor of buildings and grounds, Yale University.



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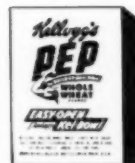
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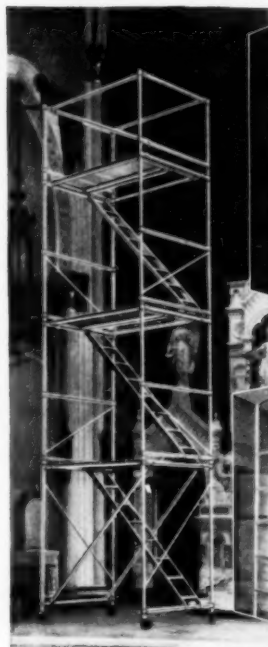
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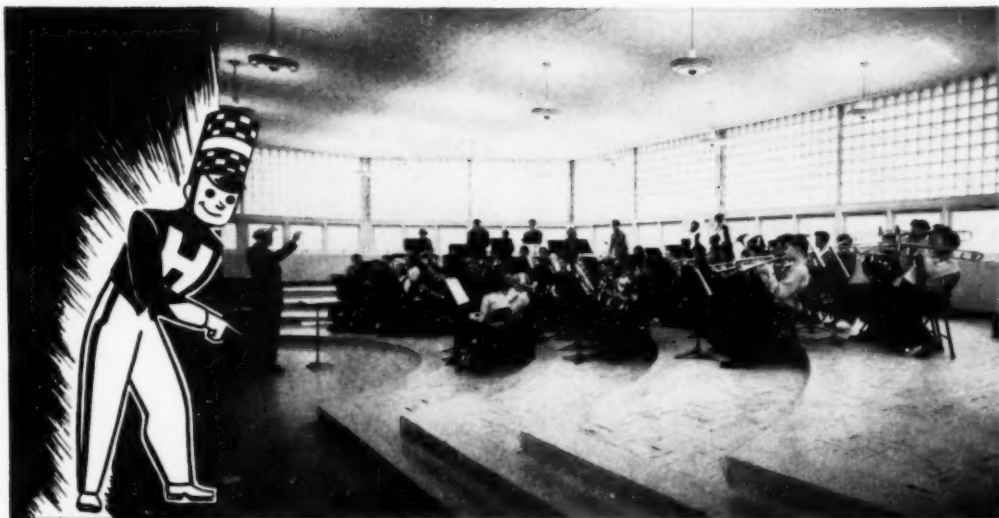
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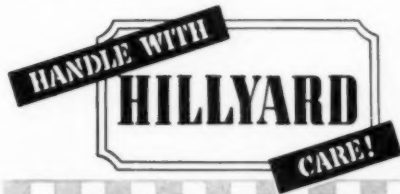
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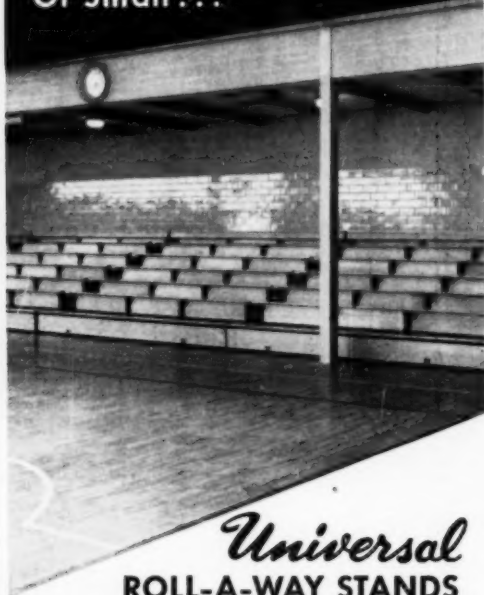
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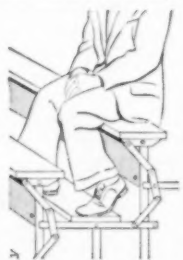
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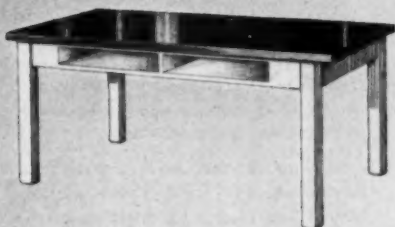
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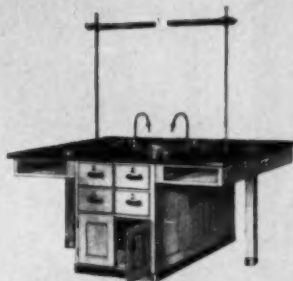
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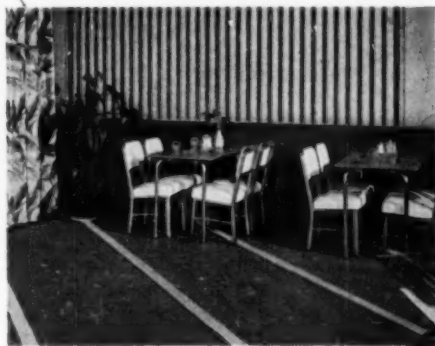
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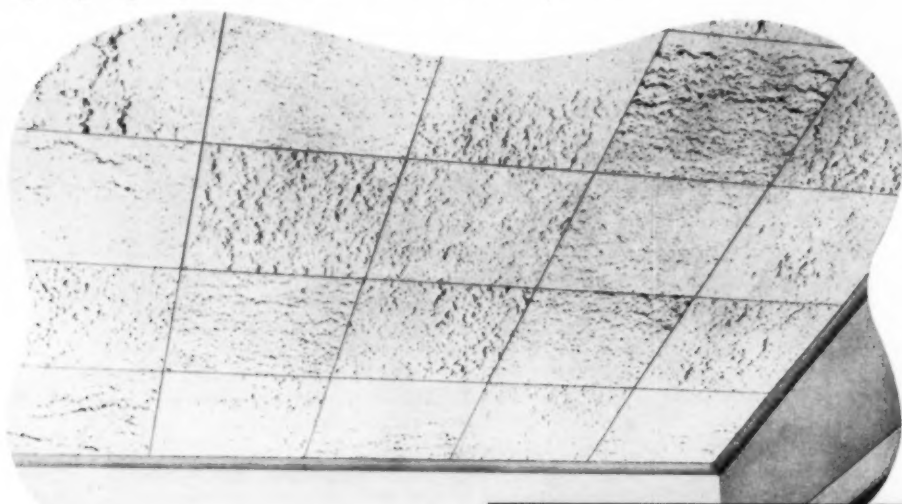


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## UNIVERSAL MILITARY TRAINING — OR THE ALTERNATIVE

**CARTER DAVIDSON**

President, Union College  
Schenectady, N.Y.



BY THE TIME THIS EDITORIAL IS PUBLISHED, CONGRESS probably will have voted on the program of Universal Military Training as presented in the report of Mr. Wadsworth's committee appointed for that specific purpose. If it voted favorably, our nation is probably committed for some years ahead to the training of all male youth at age 18 for a period of six months. But during the current (five year?) period of a 3,000,000 to 4,000,000 man armed force, the sparing of even 60,000 eighteen year olds for an experimental program will prove very difficult.

It is daydreaming for a football coach to consider using the platoon system of offensive and defensive teams if he has only 11 able-bodied men on the squad. Virtually all the physically fit men reaching 18 each year—some 800,000—must serve, not six months, but two years, if the total fighting manpower is to be adequate. Therefore U.M.T. becomes merely a smokescreen to hide the fact that the period of "boot training" is being extended to six months rather than four, but it must be followed immediately by 18 months of active duty or the services won't touch it. If even these 60,000 are "hung on the hook" as reserves, where are the services to recruit? As long as we have universal military service forced upon us by a world emergency, Universal Military Training can be nothing but a fraud.

Why, then, are the armed services advocating this enactment in 1952? They frankly admit that they are riding the wave of public concern about national defense and want to get the law through while excitement is at voting temperature. If they wait until peace is concluded in Korea and Indo-China, public pressure may demand a reduction in military expenditures and in the size of our armed forces—and then where would U.M.T. be? Therefore the planners want U.M.T. in 1952 so that they can use it, perhaps, by 1957. If the skeptic inquires whether Congress won't discontinue it when more peaceful days arrive, the answer is: Once U.M.T. is in, only an atom bomb can blast it out from its bureaucratic fortress.

Personally, I favor military training for American youth. I have seen no serious difficulties in combining education with military training and I am disappointed that the lessons learned in 34 years of R.O.T.C. operation are not being fully incorporated

in the program of military preparedness today. May I propose an integrated R.O.T.C.-U.M.T.-U.M.S. program which could, I believe, win support from educators everywhere?

Our college R.O.T.C. units, containing approximately 200,000 men, are usually in operation for only nine months each year. During the three-month summer period, these men could be available to serve as the noncommissioned officers to instruct the 800,000 high school graduates entering training camps each June 15. They would be commanded, and the camps would be staffed, by the 5000 members of the military science faculties who teach tactics during the academic year but have relatively light duties in the summers. If the services object that they don't have the camp facilities available for this large number in the summers, let them use our college and university campuses and thus avoid the inexcusable expense of building new facilities. The average campus has dormitory and mess facilities, classrooms, offices, athletic fields, and even instructional equipment that could be made available at modest cost, and college maintenance staffs could free the military personnel so it could devote its time to teaching.

During the first summer the services could administer tests to discover talented men who should be encouraged to enter R.O.T.C. college programs. Those who wish to complete their training in one six-month period could be transferred on September 15 to specialty training camps to remain until Christmas. Those who entered college would satisfy their training requirement by *two* more summer periods or by enrollment in the R.O.T.C. and completion of *four* more summers, the last of them as commissioned officers. If universal military service continues in force, 18 months or more of active duty would follow upon graduation. If not, all would be in the reserves for a period of years.

I advocate such a modified program not only because it would economize on federal finances and on the use of manpower from the regular ranks but also because it would utilize facilities now standing vacant, would provide optional paths for young men to get their training, and would expect college students to pay for the privilege of combining training with education by giving more time to the nation.



# Looking Forward

## A Matter of Concern

MANY COLLEGE ADMINISTRATORS ARE BEING URGED to approve the development of a student center or college union on campus. Is such a facility necessary, and is it a wise move?

One of the first things to be determined is whether a need for such a facility exists. If there is a need for a place where students and/or faculty may come together for informal educational activity, is it being met by some other group, such as campus religious centers or extensive residence hall programs and facilities?

Who will administer the college union program? Will it be an independent organization or a division of the institution, or will it be an adjunct of the dean of students' office? What provision will be made for integrating student government and policy in the operation of the facility? If the college union program incorporates income producing projects, will other campus areas of administration be permitted to establish competitive facilities? How will the union be financed?

Within recent years, several church denominations have constructed and staffed elaborate student centers. If that is a continuing trend, what is its implication for the college union building and its activity program?

These are only a few of the questions that must be carefully considered in deciding whether a college union program or building should be developed on a campus.

There has been misunderstanding on some college campuses between college union directors and directors of residence halls. For example, if a college union has operated a food service facility or game room for many years, it views with little enthusiasm the tendency to incorporate such facilities in a residence hall. The residence hall director contends, however, that the snack bar and game room should be located in an area convenient to the resident so that it becomes a part of his residential life. The union building director is at a loss to understand administrative policy that expects him to produce income and then authorizes the establishment of competitive facilities that will serve to withdraw income from the union building operations.

A detailed study of all factors should precede a decision for or against a college union, and the establishment of proper objectives, functions and authority should precede plans for a building. If ground rules are established, accepted and understood before the union begins to operate, most potential conflict will be eliminated.

College union buildings and programs should have a significant place in campus life. This will not happen by wishing it so but will be the result of proper planning and programming.

## Are You Going Stale?

COLLEGE FACULTY MEMBERS ARE EXPECTED TO exhibit professional growth as a result of summer study and travel and by publication of significant research. But what happens to college administrators?

According to Charles Dollard, president of the Carnegie Corporation of New York, the lack of study, travel and sabbatical leave for administrators accounts for the fact "that the very men who should be the most imaginative and enterprising in the institution are often the most stale and inert; with the result that the reservoir of trained administrative talent which is needed to supply new leadership is a discouragingly small one."

This is not to suggest that all administrators should lock their desks, pack their suitcases, and dash off on some junket. It would be helpful, however, if college administrators had an organized program of study, travel and research that would provide the stimulation necessary to grow on the job. Chaining oneself to an office desk is likely to induce a routine that soon snuffs out imagination and initiative and reduces the administrator to a level of mediocrity.

One apparent weakness of travel by college administrators is the lack of significant purpose. Leaving a campus desk in order to sit in a smoke-filled hotel room at a convention is not likely to induce much professional growth. The degree of purpose, participation and attention evidenced by the convention delegate will likely be in direct proportion to the professional growth attained. After all, even a sponge has to be squeezed if it is expected to soak up anything. Some folk float around a conference or convention like jellyfish, not going anywhere, and just about as useful.

College administrators are short on their contributions to original research. Many of them take somebody else's word for it in regard to the value of a new project; they do not question their present procedures in office management. Many fail to evaluate their own performance realistically and seem satisfied with doing the job the same old way. These are signs that they're going stale.

We hear a lot of talk these days about on-the-job training for new staff members; how about more on-the-job growth at the management level?





# U. M. T. —

**The foundation for  
national security?**

**FRANCIS H. HORN**

Executive Secretary  
Department of Higher Education  
National Education Association

"FANTASTICALLY EXPENSIVE, EDUCATIONALLY undesirable, morally hazardous, and politically dangerous"—this is the characterization of Universal Military Training made in a resolution adopted by the annual meeting of the Association of American Colleges in January.

However, this point of view is not representative of the attitude toward U.M.T. of all or even a large majority of those in American colleges and universities. In a questionnaire submitted to its membership by the Department of Higher Education, N.E.A., 43.5 per cent of the respondents indicated they were "somewhat" or "very much" in favor of U.M.T.; only 51 per cent were "somewhat" or "very much" opposed to it. There is genuine disagreement over U.M.T. among those in higher education, but it is also clear that there is considerable confusion regarding the proposals on U.M.T. currently before Congress. This article will consider these proposals.

## U.M.T. AND N.S.T. COMMISSION

Universal military training, long advocated by American military authorities and veterans groups, was approved in principle last June, when Congress passed the Universal Military Training and Service Act (Public Law 51), which tied U.M.T. to an extension of the Selective Service Act of 1948. The legislation was approved only with an

amendment providing that Congress should "take another look" at U.M.T. before it could be put into action. In the present debate, proponents of U.M.T. insist that the country has accepted the principle of U.M.T. and is now to provide implementing legislation that will determine the nature of a U.M.T. program and when it is to begin. Opponents maintain that this is subterfuge, that Congress must reconsider the *idea* of U.M.T., not merely consider specific implementing legislation.

Public Law 51 provided for the establishment of a National Security Training Commission of five members, with a civilian majority, which for five years would have general supervision over the National Security Training Corps, including standards of training and provision for the corps' moral and spiritual welfare. The commission was to draft a plan for U.M.T. and report to Congress by Oct. 29, 1951. President Truman appointed former Congressman James W. Wadsworth as chairman of the commission, and as the other members, Dr. Karl T. Compton, former president of M.I.T.; William L. Clayton, former Assistant Secretary of State; Adm. Thomas C. Kinkaid, and Lt. Gen. Raymond S. McLain.

The commission's recommendations were contained in a 75 page report,

"Universal Military Training: Foundation of Enduring National Strength," and bills embodying these recommendations have been introduced in the House and Senate by the chairman of the respective armed services committees. The committees were expected to report out their bills by March 1.

The proposals of the commission embody the following provisions. All young men, upon reaching the age of 18, will be subject to service with the National Security Training Corps, provided they meet current mental and physical standards of the armed forces. Within the limits of established quotas, they can volunteer at 17. Inductions will take place monthly, but deferments will be granted to high school students until graduation or age 20, whichever comes first, and to college students to complete the academic year. Deferments for occupation are limited to seasonal farm work and for dependency only to cases of extreme hardship.

Trainees will receive six months of consecutive training at a base, airfield or navy installation nearest their homes. Tentative plans propose that the army will train 50 per cent of the inductees, the navy 23 per cent, the air force 22 per cent, and the marine corps 5 per cent. Trainees can indicate a preference for duty. The amount of basic training will vary with the service, with the remainder of the six months



Trainees will be at an impressionable age; their training will be built upon the foundation upon which military activity rests: obedience to military command.

devoted to unit or technical training. The members of the corps will receive \$30 a month compensation in addition to quarters and subsistence and certain welfare benefits. Trainees will not be members of the regular armed forces but will have a "carefully circumscribed" military status and be subject to a modified uniform code of military justice. Regulations will be promulgated to protect the health and morals of members of the corps. When the program is in full operation, 800,000 will be trained annually. After completion of training, each youth will be assigned to the reserves for a period of seven and one-half years. The commission proposes that certain pre-medical and scientific students who enter college after their six months of training shall have their reserve service deferred until after they graduate.

#### INTERESTING POINTS

Three other points in the commission's report are especially interesting. First, the armed forces estimate that they will need one trainor or other overhead person for every two men in training. Second, since U.M.T. cannot be fully operative at once, a pilot program of 60,000 trainees should be initiated as soon as possible. Third, according to estimates of the various services the program, when handling 800,000 trainees, will cost \$4,200,000,000 the first year and \$2,160,

000,000 annually thereafter. The higher first-year cost includes \$2,000,000,000 for new military installations.

The problem of U.M.T. has three major aspects. The first concerns the principle of universal military training. The commission argues the necessity of such a program to our military security. "With an efficient universal military training program," the report states, "operating in combination with other vital elements of our security, we may hope to remain strong enough over the years to deter or repel any military threat, without undermining the mainstays of our greatness." The second aspect concerns the specific proposals of the N.S.T. Commission, which already have been outlined. The third is the matter of timing, about which the commission declares: "We are firmly convinced that the implementing legislation for the program should be enacted into law without delay." Each of these aspects will now be considered, with the commission's program discussed first.

If the views of respondents to the questionnaire are representative, college administrators and faculty members believe the commission's recommendations, so far as they affect higher education, are generally fair and satisfactory. Almost two-thirds, 62.7 per cent, for example, think that the provision of deferring college students until they have completed their aca-

demie year is satisfactory. On the other hand, more than half, 56 per cent, believe that no special treatment for students engaged in, or intending to engage in, medical, dental, scientific or professional study is too strict; 41 per cent believe the uniform treatment of all students is fair. Fifty-nine per cent also prefer an optional arrangement whereby those who wish to do so may elect to take their training in two three-month periods.

#### WILLING TO COOPERATE

Regarding the over-all effect upon the colleges and universities, the commission declared that "educators are willing to make reasonable adjustments in their schedules if they can receive some assurance that the new conditions will be enduring and not merely another in an endless series of disruptive changes." The questionnaire indicates that 62 per cent of those in higher education believe the colleges can make the necessary adjustments but with "considerable difficulty and inconvenience," and 14 per cent with "no real difficulty." Only 20 per cent foresee an "almost impossible problem" in adjusting to U.M.T.

In another area, concerning which there has been violent objection to the commission's recommendations, college people are inclined to accept the proposals. Seventy-two per cent of the respondents indicated that the special

safeguards recommended for the moral welfare of the trainees are generally satisfactory; 24 per cent indicated they were not. The commission gave considerable attention to problems of liquor, gambling and prostitution, and to the "inspirational programs"—religious services, character guidance lectures, and troop information and education programs—designed to "establish high standards of conduct" as the basis of the moral safeguarding of U.M.T. installations.

Church and temperance groups have been especially vocal in attacking the proposed safeguards. The *Christian Century*, in its special U.M.T. issue of December 19, declares that on this subject the commission indulged in "a lot of pious talk" but failed to recommend the enactment of "even such flimsy moral safeguards as it talks about in its report."

The case against the commission's proposals is sound. The commission places reliance for the moral welfare of the trainees upon the "high type of men" to be selected as trainers, who must accept responsibility for such welfare "on a round-the-clock basis." As an ideal, the *Christian Century* comments, this is fine, but it asks where these 200,000 "paragons of virtue"—the number of trainer personnel

estimated for a fully operative U.M.T. program—will come from.

The fact is that the commission's expectations regarding this rôle of the overhead personnel are unrealistic. But in my opinion, much of what has been said upon the moral issue is equally unrealistic. The temptations in U.M.T. will be great, but for many young men they will be no greater, they may even be less, than for similar young men on their own jobs or in colleges or universities, or even in some cases when living at home. The moral issue has assumed an unmerited importance in the U.M.T. debate. Other issues have greater significance.

#### PROS AND CONS OF U.M.T.

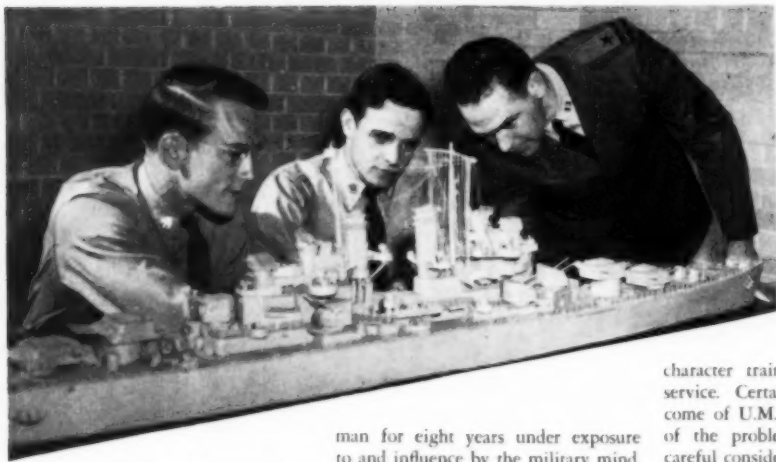
These issues concern the principle of universal military training. The arguments made in favor of U.M.T. can be summarized briefly. They are based upon the conviction, as set forth in the commission's report, that in our "moral struggle with Soviet Communism," a "large, trained and ready reserve" is necessary if the United States is to meet the constant threat of this struggle without the maintenance of large standing forces at a resulting cost that might gravely strain our economy and endanger our national security. The U.M.T. program is designed, therefore,

to deter aggression on the part of our enemies, to enable us to reduce the size of our military forces in active service, and to reduce the tremendous burden of expense now imposed upon the nation because of these forces.

What are the answers of those opposed to U.M.T.? U.M.T. has been called a "giant hoax," because while it may prepare a large reserve, it will not, it is contended, prepare a trained and ready one. U.M.T. trainees would not be available for immediate service in the event of war; they would need both refresher and team training, like National Guard divisions called for active duty. Opponents also point out that rapid technological developments make previous technical training obsolete in a short time, and that if an all-out war begins it may be over before trainees can be mobilized and readied for action.

These opponents, however, fail to consider whether or not some training, however inadequate in terms of final combat conditions, is better than none at all. They fail to appreciate, moreover, that the reserve program contemplated by the Department of Defense is no twice-a-month movie and lecture proposition. Extensive activities throughout the year and an annual two weeks at camp are designed to keep





Tentative plans propose that the army train 50 per cent of the inductees, the navy 23 per cent, air force 2 per cent, and the marine corps 5 per cent.

the trainee abreast of developments and more nearly in a state of readiness should hostilities break out. There seems little reason to doubt that while U.M.T. would not produce soldiers ready for immediate combat, it would produce such soldiers in a shorter period of time than without this training. Whether the advantage gained is worth the cost and the possible dangers to our national life is another matter.

The tremendous dollar cost is vigorously attacked by U.M.T. opponents. The proposal to spend \$2,200,000,000 annually to provide six months of training for 800,000 men, the same amount as was spent by all institutions of higher education in 1949-50, when enrollment was the highest in history, is extremely sobering. But such comparisons are somewhat fruitless.

Opponents have a significant argument, however, in pointing out that the whole world is spending less than \$100,000,000 annually on the United Nations, whose objectives if attained would make U.M.T. and our vast expenditures for defense unnecessary. They protest, moreover, that the commission makes no mention of the United Nations and other ways of working toward international peace and a world in which conscription would be unnecessary. Conscription, they maintain, has never prevented wars or deterred aggression.

It is against conscription as a manifestation of militarism that U.M.T. opponents have leveled their heaviest attacks. The chief purpose of U.M.T., according to this point of view, is indoctrination. As stated by the *Christian Century*, real purposes of U.M.T. are:

1. To bring every young American

man for eight years under exposure to and influence by the military mind.

2. To destroy the civil security of individual young Americans, to destroy civilian manpower controls, and to give the professional military caste control at all times of all Americans of fighting age.

3. To give the armed forces an excuse to continue in service hundreds, even thousands, of officers who otherwise would never be kept on active duty in peacetime.

4. Thus to inculcate in all Americans "the habit of obedience" to military command, or, in other words, to militarize America.

The commission has attempted to answer this argument by emphasizing that the continuing control vested in the commission will provide protection "against any possibility that U.M.T. might become a device for militarizing our youth." It points out, furthermore, that the experience of millions of returning veterans from both world wars indicates that the danger of militarization is slight.

#### REAL DANGER INVOLVED

The situation is not parallel, however, and to me the dangers are real ones. Trainees will be at a very impressionable age, and their training will be built upon the foundation upon which all military activity rests: obedience to military command. This emphasis runs contrary to the primary purpose for which education exists—to teach every individual to think for himself. In addition, military life puts a premium on those things that education strives to eradicate. Instead of developing individual initiative, for example, one learns never to stick one's neck out, and other undesirable

character traits are soon learned in service. Certainly, this possible outcome of U.M.T. training is an aspect of the problem requiring the most careful consideration.

The third aspect of the U.M.T. problem is when the program should begin. The commission recommended that the program get under way "at the earliest possible date." Testimony before the House armed services committee indicated that the Department of Defense expects to initiate U.M.T. in a limited program concurrently with the continuing operation of Selective Service six months after implementing legislation is passed. According to Gen. Lawton Collins, the department believes that in two or three years, possibly by July 1, 1955, the draft can be eliminated in favor of a fully operative U.M.T. program.

Since U.M.T. is regarded by the commission and the Department of Defense as a "peacetime" measure, this looks like wishful thinking. Many educators see no peacetime conditions on the horizon that would justify the reduction in the armed services "in being," and the elimination of the draft, that a fully operative U.M.T. program would imply. It is on this basis that many in higher education are opposed at this time to legislation implementing the commission's recommendations. Seventy-two per cent of the college and university people who responded to the questionnaire object to implementation at this time.

This was the stand I took in testimony before the House armed services committee on behalf of the Department of Higher Education, N.E.A. The period of tense international conflict abroad and partial mobilization at home will last for a long time, possibly a decade or more. During this period of tension, an armed force in being of about the present size of

3,500,000 will be required if the United States is to carry out military commitments and preserve national security. U.M.T. will not provide such a force. The only way it could meet the need is to have trainees ordered to active duty for 18 months or more upon completion of six months of U.M.T. The fact is that *the United States faces a long period when at least two years of universal military service will be required of every able-bodied young man.* The draft, with such modifications as are necessary, is the answer to present needs and those of some years to come.

Since it is impossible to predict how long the present crisis will last or to foresee what the conditions will be if and when "peace" is restored, no useful purpose can be served by drawing up a program of universal military training predicated upon the establishment of these peacetime conditions. As the resolution of the Association of American Colleges, referred to in the first paragraph, put it: "Currently to embark upon a program of U.M.T., essentially a permanent peacetime measure, rather than to invest our time, thought and effort on behalf of immediate military demands and on behalf of those developments of a nonmilitary character which offer greatest hope of permanent peace is to dissipate energy and to court national disaster." It is in the latter area that the colleges and universities have their greatest opportunity. They are making great contributions to the present defense effort. But their major contribution to long-range national security will come through the development of individuals with trained minds and the special competencies in a thousand areas necessary to lead the world out of its present chaotic state to one of stability and peace.

When such a world seems closer to realization, when we are in a period relatively more free of the present tensions and resulting fear and hysteria, there will be time to consider the merits of universal military training as the "foundation for national security." Even Gen. MacArthur, when testifying on U.M.T. last May, advised waiting until the nation got through its present emergency. Then, "on what has resulted, and what exists then," he stated, "I would sum up the facts and make my decision." At this time, this is still the soundest position to take on universal military training.

## Developing cooperation among

# • BUILDING OPERATOR

# • CONTRACTOR • ARCHITECT

FRANK NOFFKE

Director, Wilson Compton Union  
Washington State College

THERE ARE TWO FUNDAMENTALS in developing cooperation in working relationships. The first is *communication*, and the second is *understanding*. The second is, in fact, an extension of the first, in that understanding and appreciation of others' work come from communicative relationships, relationships in which there is a ready exchange of information.

Often, cooperation is considered to be something based entirely upon good will and compatible personalities. If such are the bases, cooperation will break down and problems will set in when good will and compatible personalities wear out. If clear "area descriptions," job descriptions, and lines of communication are set up, then the habit of communicating across the lines of jurisdiction also is set up. When disagreements come about, the habit will have been established, so that communication continues. When communication ceases, problems start.

So many problems affect all three—the architect, the operator, and the contractor—that failure to consider the other two parties may have a devastating effect. It is the operator's job clearly to set forth what the purpose of the building is, in a written program of use. It is the architect's job to put that program into plans. It is the contractor's job to place the plans into physical form.

Between the architect and the operator, there must be the understanding that the building must be functional, as well as beautiful, and that functionality in the future operation of the building must take the nod. It also must be understood that functionality must take a back seat when the technical requirements of building construction do not permit as ideal an operating situation as might be wished. Such understandings must be talked over, thoroughly understood, and

agreed upon. At times it may be difficult for the architect to understand, e.g. that the location of a certain panel must be in a certain location to save steps and reduce costs, rather than in a somewhat remote position, with greater costs resulting. The operator must understand, e.g. elevator shafts and air ducts reduce the size of rooms or change their locations and that this kind of technical requirement seldom can be overcome.

If for any reason any member of the team doesn't send carbon copies or doesn't acquire the habit of picking up a telephone and stating what is happening or that a problem is just ahead, many hours will have been consumed and many blind alleys investigated, all to no avail.

The work is not completed once the plans are drawn, for many problems arise and many changes, in most cases minor but important ones, must be made after construction is started. At one point it seemed wise to us to have carbon copies of the contractor's communications with suppliers of major equipment sent to us (the operators). Because we were abreast of the progress of the selection of major equipment, we were able to coordinate our planning, interviewing the salesmen for this equipment. We obtained information that affected the operation of this equipment and, therefore, the operation of our entire program.

Cooperation as compared to coordination indicates the willful, unregimented effort to work together. Even though good will, trust and compatibility are present, short memories and pressures of other projects oftentimes preclude the will to work together and sometimes prevent it.

The habit pattern of ready communication among the building operator, contractor and architect, based upon a clear understanding of the others' areas, provides cooperation.



# UNIT COST ANALYSIS

## as a key to budget adjustment

### "WHY ARE PROFITS GOING DOWN?"

This is the headline in a recent issue of the *U.S. News and World Report*. Business and industry are concerned with profits. They are interested in reliable sources of income and proper balance and control of expense. Stockholders must have proper returns for their investment, and it is up to management to produce these returns. To keep profits rolling, management uses all kinds of analytical techniques, including unit cost analysis.

Although educational institutions have a different purpose from industry, the sources of income and balance and control of expenditures are just as important. We need to know what each function of operation costs. Unit cost analysis is one technic that can be used to good advantage in determining university costs.

This analysis is a method involving a simple arithmetic formula: (a) total departmental costs divided by the (b) unit of measure equals (c) the cost per unit. Business enterprises use this formula as an integral part of operations; however, a fairly large proportion of colleges and universities has yet to utilize this system.

The system used at Oklahoma Baptist University is a practical method that works well in our particular situation. No doubt many institutions use unit cost analyses that have features not mentioned herein.

### AIDS IN PREPARING BUDGET

The development of instructional unit cost analysis at Oklahoma Baptist grew out of a need for additional objective measures to aid in the proper planning and preparation of the university budget. In September 1949 the heretofore increasing enrollments began to decline, which meant departmental budgets would have to be reduced university-wide. Since the major portion of the budget was for instruction, our primary purpose was to pro-

vide an objective means, supported by the faculty, that would be of assistance in proper evaluation of need for funds in instructional departments.

It was imperative at this point that the business office more than ever before have the complete confidence and cooperation of the faculty. The faculty accepted budget reductions provided it could be assured the reductions were



distributed proportionately and equitably. It was essential the faculty have before it objective criteria, sufficiently adequate and pertinent to present the facts, and unit cost analysis was one method of obtaining the facts.

The old adage, "Necessity is the mother of invention," produced the unit cost analysis at our institution, because, as every business officer knows, budgets are not reduced easily. However, the faculty members at Oklahoma Baptist University have proved budget preparation and planning can be a pleasant and satisfying relation if one gives them the facts.

The information for the unit cost analysis is taken from two sources: (1) the budget, and (2) the teachers' load report from the college of liberal arts and the college of fine arts.

At the beginning of each semester, the business office requests a teacher

load report from the dean and registrar of the college of liberal arts, including by department the (a) number of students per teacher, (b) number of credit hours taught per teacher, and (c) the student credit hour equivalents per teacher. *Student credit hour equivalents* are computed as follows: The total number of students per class times the credit hour for the class. For example, assume a faculty member teaches four classes with 20 students in one class at five hours' credit for the class, 30 students in another class at three hours' credit, 45 students in a third class at three hours' credit, and 15 students in a fourth class with two hours' credit. The computation is as follows:

Class	No. of Students	Credit Hours	S.C.H.E.
1:	20	× 5	= 100
2:	30	× 3	= 90
3:	45	× 3	= 135
4:	15	× 2	= 30

GRAND TOTAL 355

In the detail working papers of the report, we accumulate the following information by departments, with the departments listed in alphabetical order:

1. Number of students enrolled per teacher and the total number of students enrolled in the department.
  2. Number of credit hours offered per teacher and the total number of credit hours offered in the department.
  3. Number of student credit hour equivalents per teacher and total student credit hour equivalents in the department.
  4. Faculty salary per teacher with total faculty salaries for the department.
  5. Student salaries, supplies and equipment in total by department.
- The information for items 1, 2 and 3 is taken from the college of liberal arts semester teacher load report. The information for item 4 is taken from



the budget. Since this report is made on a semestral basis (18 weeks or 4½ months), one-half the faculty member's nine-month contract is prorated to this semestral unit cost report. The information for item 5 is also taken from the budget.

Since the budget is prepared on a 12 month basis, we prorate a certain per cent of the 12 month departmental budget to each semestral unit cost analysis. The proration is made as follows: The university has two regular 18 week semesters and a nine week summer session. Since the summer session is one-half the length of a regular semester and the summer session enrollment is approximately one-half the number enrolled in a regular semester, a valuation is set on the summer session at one-fourth that of a regular session. Therefore, by placing a value of 1 on the summer session, the two regular semesters have a value of 4 each, making a total 12 months' value of 9. Then, four-ninths of the 12 month budget for student salaries, supplies and equipment is charged to each regular semestral unit cost analysis report.

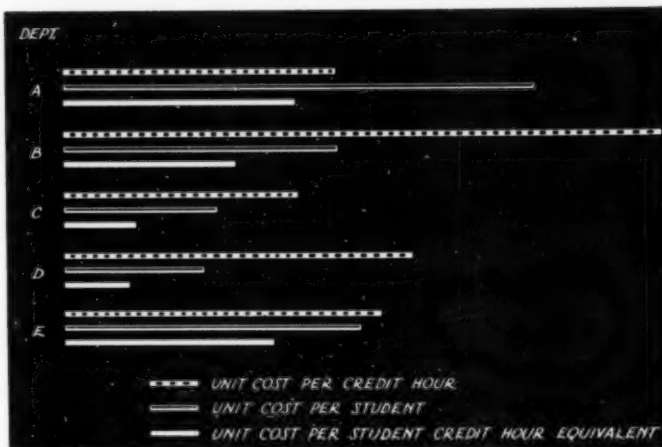
The five items mentioned above make up the primary information shown in the detail working papers of the report for the college of liberal arts.

### THREE UNITS OF MEASURE

The total departmental faculty salaries and total student salaries, supplies and equipment are added together to get the total semestral department expense. We have three different units of measure: (1) number of students enrolled, (2) number of credit hours offered, and (3) number of student credit hour equivalents. With these three different units of measure, we get three different unit costs—unit cost per student, unit cost per credit hour offered, and unit cost per student credit hour equivalent—for each department.

Let's compute a department:

Teacher	Cr. Hrs.	No. Students	Total S.C.H.E.		Semestral Salary
A	15	90	300	(a)	\$2600
B	12	85	255	(a)	2000
C	14	75	230	(a)	1500
DEPT. TOTAL	41	250	785		\$6100
Plus student salaries, supplies and equipment					900
Grand Total Semestral Expense for Dept.					<u>\$7000</u>



Therefore, the unit cost per student is (\$7000 total exp. ÷ 250 students) \$28. Unit cost per credit hour offered is (\$7000 total exp. ÷ 41 cr. hrs.) \$170.73. Unit cost per S.C.H.E. is (\$7000 total exp. ÷ 785 S.C.H.E.) \$8.94.

These three unit costs are plotted on a bar graph with departments listed alphabetically, as shown above.

Also, at the beginning of the semester, the business office requests a teacher load report from the dean of the college of fine arts. This report lists by teacher: (1) the number of private music lessons taught per week; (2) the number of class lessons taught with number of students and credit hours per class, and (3) the name of musical organization sponsored by each teacher.

One clock hour of private lesson instruction is considered the equivalent of one and one-half clock hours of class instruction. Musical organizations, such as the glee club, are given a clock hour value for the teacher, depending on the number of hours the organization practices each week.

Organization clock hour evaluation is not considered in the student credit hour equivalent computation, since no

academic credit is given for participation in these organizations; however, the organizations do count on the fine arts teacher load. The college of fine arts teacher load is from 27 to not more than 30 clock hours per week, with one hour of class instruction considered one and one-half hours on the teacher load for college of fine arts faculty.

Because of the nature of the instruction, we prepare the college of fine arts unit cost analysis in a slightly different manner from the unit cost analysis for the college of liberal arts. By using the same methods as in liberal arts, we develop (1) a clock hour teacher load report, and (2) unit cost per student credit hour equivalent. A bar graph is plotted for the clock hour teacher load report. Since the college of fine arts is much smaller than the college of liberal arts, we do not compute unit costs by department within fine arts as we do in liberal arts.

Summaries of both colleges are prepared, and a letter of transmittal with the report is sent to the president of the university, including brief interpretations of the facts revealed from the unit cost analysis.

Each college dean is given the unit cost analysis for his college, and each department head in the college of liberal arts is given the necessary information for his department. Within 20 days after the beginning of each semester, this unit cost analysis is completed and the information distributed.

When the unit cost report is completed, it is used as one of several guides in budget preparation with the departments. Of course, several other factors affect the budget allotment,

such as (1) the subject taught; (2) supplies and expenses required; (3) salary range of faculty compared with other departments; (4) relation of number of majors and minors in the department to the total number of students in the department, and (5) whether or not the department is a service department, such as mathematics to physics and chemistry.

Thus far we have discussed why we started unit cost analysis reports at Oklahoma Baptist University and the mechanics involved in the preparation

of the report. Now, it seems practical to discuss the report's disadvantages and advantages.

These are a few disadvantages:

1. It costs money to prepare the report; we have to watch this phase too.

2. Overemphasis on the information from the report for budget purposes would be harmful. It is only one technic of management. The information revealed in the analysis should be used advisedly. For example, one cannot assume each department can spend the same amount of money per

student and get the same efficiency.

3. If a department is below the average unit cost, the department head is prone to want more money just because the department is below average in unit cost.

Advantages include the following:

1. We have up-to-the-minute cost information by using budget information at the beginning of each semester rather than waiting to make the report at the end of the semester when we have a record of the actual expenditure. By having good budgetary control, the actual expense will not exceed the budget anyhow. Of course, if we were to use the actual expense at the end of the semester, the unit cost analysis would still be helpful; however, it compares slightly with closing the barn door after the horse is gone.

2. The faculty has confidence in objective and scientific information. The report with other objective data helps to dignify budget planning and preparation by eliminating the feeling among the faculty that "the wheel that squeaks the loudest gets the grease."

3. The report helps prevent hasty decisions both on the part of the faculty and the administration. New departments are not created so quickly or new courses added to the curriculum, because all concerned soon become aware that adding a course or department will probably mean financial sacrifice for several other courses or departments.

4. Since most colleges and universities need more money for operation than they actually have, it becomes doubly important that the facts are known before the money available is spent.

5. The faculty has more concern for the wise expenditure of funds when it is aware that the institutional service departments, such as the business office, are keenly conscious of balanced spending and give the faculty adequate representation in deciding how money should be spent.

6. Unit cost analysis helps set the stage for many different programs, such as a system of course rotation, the combined use of equipment by departments, and stenographic pools for faculty.

It is necessary to train the faculty and staff in the mechanics of the unit cost analysis, and it is important to educate them in its usefulness. Our experience has convinced us the cost involved in report preparation is justified by the result.

**It's time something was done to**

## **IMPROVE SPELLING**

**WESLEY VORDENBERG**

Director, Nonacademic Personnel  
Florida State University

THE TELEPHONE RANG IN THE UNIVERSITY personnel office. A department head was calling concerning a prospective secretary named Betty. She was a recent college graduate, capable and poised, and was, apparently, all those glorious things employers look for in a secretary—and seldom get. Furthermore, Betty had majored in business education and was skilled in typing and shorthand. "But she can't spell," moaned the department head.

We made a quick check on the results of the spelling test Betty took when she applied for work at the university. Results showed that (a) she spelled *operation* with two p's; *remembrance* like *remember* plus *ance*; (b) she apparently had not met such words as *caisson*, *specimen* and *garrulous*; (c) she was at the bottom of the highest quarter of applicants who took the test. While this evidence was not too damaging, employers for whom Betty had worked previously consistently reported that spelling was her chief weakness on those jobs.

In looking over the results of the spelling test in general, we discovered that more than half of the applicants misspelled *remembrance*, *caisson* and *garrulous*. Forty per cent couldn't spell *grateful* and *acquainted*; 30 per cent had difficulty with *definite* (misspell-

ing it *definate*); 20 per cent could not spell *unusual*, *expenses*, *operation* and *owing*, and more than 15 per cent misspelled such words as *distribute*, *collusion*, *sheriff*, *syllable*, *ignorance*, *signature*, *diligent*, *customary*, *temporary*, *allowance*, *presence* and *convenient*.

Improvement in spelling and vocabulary is such an individual (and sometimes life-long) process that one wonders what can be done to make applicants more spelling conscious. Newspapers and magazines publish spelling "quizzes" and evidently people read, work and enjoy them. Perhaps similar aids could be designed for use in training courses and in employment offices.

In these days of shortages, there is little doubt that secretaries who are poor spellers will be hired. Unless the secretary, however, takes upon herself the task of improving her spelling and of making sure that her work is accurate, this deficiency will be a constant source of irritation, both to herself and to her employer. Few employers can take time to train workers in such elementary tasks. We may come to it, though, if colleges and universities continue to graduate students who are deficient in the use of English and sanctify their deficiency with degrees.

## FIXED OVERHEAD CHARGES

for a college or university of any size

COLLEGES AND UNIVERSITIES HAVE always had a difficult time persuading alumni groups or legislators that they do not operate as do business or industrial concerns. In attempting to point out the differences to the public, however, the ways in which education is similar to a business organization have been overlooked. One of these similarities is in the application of fixed overhead charges, which can be applied more dramatically to an educational institution than to business itself.

Budget conferences held since student enrollments have begun to decline have demonstrated that the flexible part of the budget is very small indeed. It has become clear that in department after department further

budget reduction would raise the question whether it would be possible to continue discussion sections in history or sociology, or adequate laboratory sections in chemistry or biology. This realization led to an attempt to determine what elements give rise to this inflexible budget situation. That, in turn, led to an effort to establish a method of calculating fixed overhead costs, which could be verified by means of concrete examples.

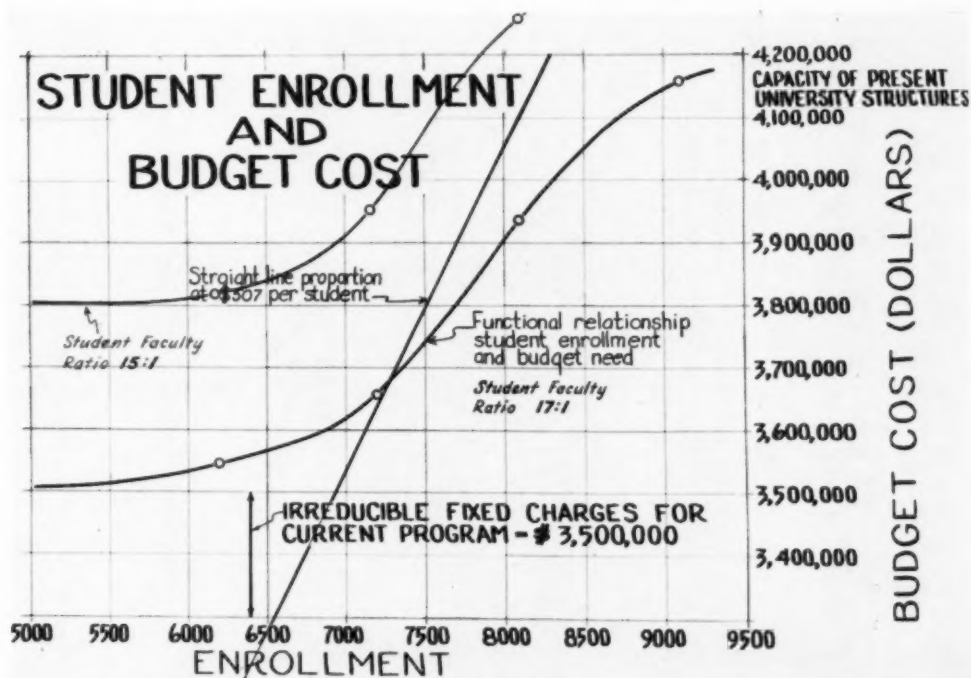
The basic method of calculating the fixed overhead of a college or university rests upon the functional rela-

tionship between budget and enrollment. In one sense, the budgets that we have been given in the past have not been based upon such a relationship. An examination of teaching loads, the size of sections, and the general student-teacher ratio will indicate if the functional conditions permitted by the budget are satisfactory.

In the large undergraduate college of one of the state universities most of these conditions, with the exception of the general student-teacher ratio, were satisfied in 1950-51. The enrollment in all courses was 7200 students

LLOYD S. WOODBURN

Dean of Arts and Sciences  
University of Washington



Fixed overhead is determined by the functional relationship between budget and enrollment.

# BASIC PROGRAM

*for One Third of Student Body*

# Chart of BUDGET and ENROLLMENT

## ECONOMICS

Principles of Econ, Econ History, Price Theory, National Income, Money, Banking, Labor, Public Finance, Taxation, International Econ. - 72%  
Program of Sections - THREE FOURTHS of present students - 94.9%



## GEOLOGY

General Geol., Petrography, Mineralogy, Ore Deposits, Paleontology, Structural Geol., Physiography, Sedimentary Petrography - 78.6%  
Program of Sections - THREE FOURTHS of present students - 94.2%



## PSYCHOLOGY

Comparative, Physiological, History, Learning, Experimental (Perception), General, Statistics, Abnormal - Mental Hygiene, Child - Testing, Social Psych. - Motivation, Applied - Vocational - 72%  
Program of Section - THREE FOURTHS of present students - 95.8%



## METEOROLOGY

Physical Climatology, Meteorology, Synoptic Meteorology, Air Turbulence - 100%  
ONE THIRD increase budget - 50% increase of students



## FORESTRY

Forest Admin, Logging Engin, Dendrology, Wood Technology, Forest Management, Silviculture, Introduction, Fire Control, Forest Utilization - 100%  
ONE THIRD increase budget - 75% increase of students



## FISHERIES

Population Dynamics, Ecology, Migration, Propagation - Nutrition, Fish By Products, Comparative Anat. - Physiol, Econ Important Molluscs - Crustacea - 100%  
ONE THIRD increase budget - 73.8% increase of students



and the budget \$3,650,000. This furnishes one point of this functional relationship.

The next point was fixed by using the 8100 enrollment of 1948-49 and by correcting the budget of that year for the proportionate salary changes by rank that had occurred in the intervening two years. This gave a corrected budget figure of \$3,940,000.

A third point was established by reviewing the detailed departmental budgets and by calculating the legitimate functional deductions if the enrollment dropped to 6200. This included adequate staffing and section allowance for the entire present course program, with the exception of a few marginal advanced courses that could not be justified oftener than every second year. These calculations, without padding, gave a budget of \$3,545,000 for 6200 students.

The final point of this relationship was determined by an enrollment of 9100 students being assumed, and the budget increases needed over the figure for 8100 being calculated. This process included the examination of section size and lecture size for 8100 students, the fraction of the added thousand that could be absorbed into the existing sections, and the cost in staff needed by the remainder. The final budget figure for this number amounts to \$4,160,000.

#### GENERALIZED PATTERN

If these four points of relationship are placed on a two-coordinate graph, a smoothed curve may be drawn between them. The smoothed curve merely irons out the small irregularities and gives a generalized pattern for one institution. If this general smoothed curve is now extended at its lower end along the same slope and gradient, it becomes parallel to the baseline at about the enrollment of 5000 students. The projection of this point against the budget coordinate gives the fixed charges for the present program of courses. The fixed overhead is represented clearly in the chart on page 27 since a reduction of 2200 in student enrollment allows a reduction in budget of only \$150,000.

Depending upon the coverage of fields of study that are included, a series of functionally related points on the graph of enrollment *vs.* budget will show, for any college, that a surprisingly large portion of present budgets are actually fixed costs of effective operation.

The relationship that the public or legislators believe exists between budget need and enrollment figures also can be represented on the same chart. If we accept the gross per student cost of 7200 students on the same chart and proceed to connect the points fixed by \$507 per student at 6200, 8100 and 9100 student population, there results a straight line curve depicting the impact of this concept on budget. The net result is that the budget rises slightly more sharply than that of the functional smoothed curve above 7200 students. On the basis of the straight line proportion there would be an advantage over the smoothed curve of about \$110,000 at 8100 students. If, however, the smoothed curve represents truthfully the functional needs for 8100 students, is there any justification for the extra \$110,000?

The reason for this small relative difference between the two curves is based on the fact that the fairly sharp rise in the functional curve represents a large increase in the number of sections of courses between 7200 and 8100 enrollment. The absorption of students into sections existing for 7200 students was exceeded, and wholly new sections had to be formed. In the decline in enrollment from 7200 to 6200 the size of sections declined from 35 to 30, or even to 20, without the possibility of the number of sections being reduced materially. Below 6200 students, a slight further reduction in numbers of sections is possible until the minimum sections are left that will allow the students to schedule their courses without incessant conflict.

#### SHARPEST DEVIATION BELOW 7200

The sharpest deviation from the functional curve is shown below 7200 students if the smoothed curve is compared with the straight line curve of \$507 per student. The functional curve flattens out until it arrives at a horizontal position, whereas the straight line continues at the same slope. This deviation, in fact, is so great that the theoretical loss of income at 6200 students is \$550,000, if the straight proportional curve is used. It should be clear from this that all of our previous discussions based on a straight line proportion have been far removed from what functionally takes place. Furthermore, it should be equally clear that the concept of X dollars per student enrolled as the basis for budget

fluctuations has never had any reality except in the minds of legislators and the public.

The representation of fixed overhead charges can be further supported as the correct functional representation by the decreasing cost per student as the enrollment increases. At 5000 students the unit cost is \$700 per student, at 6200 it is \$571, at 7200 students it is \$507, at 8100 students it is \$486, and at 9100 students the unit cost is \$457. This representation is, of course, analogous to business or industry when the unit cost declines as the units produced climb above the point of fixed overhead. Declining unit costs probably will not continue after the capacity of present buildings is reached.

#### RATIO NOT SATISFACTORY

Aside from the assumptions of the correctness of the current course program and the current methods of instruction, there is a third assumption inherent in the functional curve. This is the assumption that the present ratio of students to teacher is adequate. Such an assumption is not correct, however, for the ratio on which the curve is based is 17 students to one teacher. That is not considered satisfactory. It is necessary, therefore, to draw another functional curve on the chart. This one, based on a ratio of 15:1, is some distance above the first one. The points in it are based on the proportional increase over the curve of the ratio of 17:1.

It is not an increase of the same total amount at each point, but 17/15 multiplied by the budget for 6200, 7200, 8100 and 9100 respectively. In addition to showing the alteration needed in order to give greater individual attention to students, this second functional curve points up the fact that the curve of present operation has no permanent validity. Similar variations also could be added to represent needed changes in salary levels to place the institution in a truly competitive position for faculty.

When the foregoing part of the study had been completed, it seemed too generalized to carry complete conviction. The attempt was made, therefore, to verify it by a completely separate method. This was the application of the concept of fixed overhead in six specific fields of study, five of them within the one college. Three of the examples were large departments with registrations of from 1200 to 1700 students. The other three were



smaller units of study where present registration averaged 200 with a minimal staff for that number. The larger departments were psychology, economics and geology, while the smaller units were fisheries, meteorology and forestry.

Perhaps one department in each category will serve to illustrate the procedure and calculations. In psychology, for instance, the first step is the determination of what are the basic fields of study. What fields, not courses, must be offered if an adequate program of training is to be presented to students, however large or small the student registration? These basic subdivisions are comparative and physiological; history, theory and learning; experimental and perception; general; statistics and test construction; abnormal, mental hygiene and counseling; child and test administration; social, motivation and public opinion; applied, industrial and vocational.

Because of the diversity between these subfields and because all of them must be offered at two levels at least, there must be roughly one man for each field in a university. These professors' salaries are listed alongside the subfields in the table.

SUBFIELD	PROFESSOR'S SALARY
Comparative and physiological	\$ 7,890
History, theory and learning	7,002
Experimental and perception	5,202
General	5,400
Statistics and test construction	9,018
Abnormal, mental hygiene, and counseling	6,036
Child and test administration	8,360
Social, motivation and public opinion	7,000
Applied, industrial and vocational	5,976
	<b>\$61,884</b>
Secretarial and instrument maker	11,940
	<b>\$73,824</b>

The total of these individual salaries plus a small amount for secretarial and laboratory aid adds up to 72 per cent of the present budget. This is the basic fixed cost and represents a budget need even if the student registration dropped from 1700 to 570. In effect, then, 33 per cent of the students need 72 per cent of the current budget.

This relationship of 72 per cent of the budget needed to teach 33 per cent of the present students is clearly the largest element in any fixed overhead calculation. Since the cost per student declines as the numbers increase, the cost of the succeeding groups of students is progressively less. In fact, beyond the fixed cost represented by the essential fields of study, the largest part of the remainder of any depart-

ment budget is composed of the salaries of staff who carry on quiz or laboratory sections.

In order to obtain comparable figures there should be added to the 72 per cent of budget the salaries needed for roughly three-fourths of the current student registration. This provides a relationship comparable to the 7200 and 5000 students of the original curve. When this cost is added to the 72 per cent we have a cost of 95.2 per cent of the present budget for 75 per cent of the present students.

While this is true in the decline from 7200 to 5000 students, it would not be equally true if the decline were from 8100 or 9100 students to three-fourths of those numbers. The reason for these differences is clearly that the decline below 7200 does not allow a large reduction of total numbers of sections, whereas a decline from 9100 or 8100 students would allow a considerable reduction of sections. The sections theoretically eliminated in declines from 9100 or 8100 would consist of sections newly formed for the excess students over 7200.

The three examples of psychology, economics and geology average about 95 per cent of the present budget to take care of three-fourths of the present student registration. The remaining 5 per cent of the current budget, if multiplied against the total salary budget of the college, results in a decline from 100 per cent to 75 per cent of enrollment—\$165,000 in budget terms. The comparable decline on the smoothed curve is \$150,000.

When it is considered that examples like those used here have the largest registration and consequently large budget segments devoted to section work, a variation in result of \$15,000 is fairly insignificant. Other fields will obviously have higher fixed costs and will raise the total percentage of budget for 75 per cent of the present students nearer 96 per cent or even higher. A graphic delineation of these percentage relationships is shown in the block chart on page 28.

In this chart also are three examples of registration varying from 150 to 250. These are the important fields of fisheries, meteorology and forestry. There is in these subjects just the minimum staff to teach the basic fields. Further, any increase in students would require an increase in budget. The present enrollment and the present budget, i.e. fields and staff, are in balance at 100 per cent of current opera-

tions. By this is meant that enrollment could decline without any decrease in functional budget, whereas some budget increase would be needed for any increase in enrollment.

The basic fields of forestry are dendrology, forest management, logging operations and engineering, silviculture, forest mensuration, wood technology, fire control, and forest policy. The faculty for a minimum enrollment with provision for laboratory instruction receives salaries within 1 or 2 per cent of the current budget for this field. We have, then, virtually 100 per cent of fixed overhead, which does not decrease with a decline in student population. Any increase in enrollment would, however, call for some budget increase. It is calculated, for instance, that a 10 per cent budget increase in forestry would allow a 30 per cent increase in students, while a 75 per cent increase of students would only cost 33½ per cent increase in budget.

Comparable data are shown for fisheries, while meteorology could add only 50 per cent more students with a 33½ per cent increase in budget. The same fluid relationship exists between students and budget in these last examples as was present in the first three analyzed. The last examples show clearly the inflexible part of the fixed overhead costs of a teaching institution. The same budget and fields of study must be provided even if the registration drops from 250 to 50.

These examples of relatively inflexible budget and staff arrangements are much more analogous to the teaching program of the small college than those in the first illustrations. In both instances the enrollment is small; the number of staff persons is at the minimum for any adequate program, and any large increase in students would call for increased staff and budgets.

Allowing for some adjustments, therefore, the method described seems applicable to small colleges as well as to large institutions. The general curve on the chart, if redrawn for a small college would, probably, be very flat with no sudden drop-off because of declining numbers of sections.

The examples and considerations outlined seem to portray a method of calculating fixed overhead costs of a college or university irrespective of the size of student registration. Such a method should be helpful in presenting our task of education realistically to alumni, to the public, and to the legislature.



ATHLETIC TURF DESIGNED FOR FOOTBALL, baseball and other strenuous games, as on playground areas, requires special treatment. Such turf gets much abuse and the soil beneath it becomes compacted so that the air is squeezed out. This leads to a shallow and restricted root area and may be responsible for turf failures.

Athletic turf can be improved by: (1) proper fertilization, in spring and early September; (2) watering when needed during dry spells; (3) frequent mowing; (4) weed control; (5) aeration in spring and fall; (6) seeding on areas that have thinned out, to be done following aeration.

The U.S. Golf Association, Greens Section of the U.S. Department of Agriculture, and such universities as Purdue, Rutgers, Texas A. & M., University of California at Los Angeles, Iowa State College, and the University of Tennessee, for example, have found out a number of things about the care of turf and the relationship of different types of machinery to it.

Most schools and colleges believe that turf should be cut often, thus reducing the shock to the growing plant and eliminating the accumulation of clippings on the lawn. Some people believe the grass should be cut in a different direction each time. Many schools and colleges have grounds superintendents with years of experience in fine golf course maintenance—one of the best recommendations, incidentally, for a grounds superintendent.

For decorative purposes or for recreation areas, turf costs less than any other satisfactory surface. Maintenance cost of turf, including mowing, fertilizing and irrigation, is low. In the prevention of wind and water erosion, fire prevention, weed control and in curtailing the likelihood of physical injuries in recreational areas, there are few if any substitutes for good turf.

Mowing practice, naturally, must meet the demands of the turf. Dif-

**Using power lawn mower machinery for**

## **GROUNDS UPKEEP**

**HARVEY L. LANTZ**

Associate Professor, Department of Horticulture  
Iowa State College, Ames



One of the reel-type power mowers that are used at the University of Tennessee.

ferent types of grasses are the province of the agronomic experts, but any well qualified grounds superintendent can do much to increase the beauty and usefulness of grounds by his mowing practices and the machinery he uses. A well qualified grounds expert knows that mowing should be done when the grass requires it rather than at certain predetermined intervals.

#### TURF PROBLEMS

Turf problems met and solved by many colleges and universities are:

1. *Wind and Water Erosion.* Less frequent cutting tends to thin the grass. When the grass is allowed to grow tall, the cutting comes below the leaf or where the plant has converted ground nutrients, leaving a stubble that holds the earth but won't stand up under intensive use. In this case, a sickle-bar type of power mower or the versatile rotary type will be used. The reel type of mower is not efficient when the grass is allowed to grow tall or when tough weeds, small bushes and the like form part of the cutting area.

2. *Fire Prevention.* Frequent mowing reduces fire hazards to a minimum. Gang units or large sized rotaries with their large capacities keep the vegetation down. The rotary types with their mulching effect reduce raking after tall grasses are mowed and get rid of the dangerous practice of burning off large areas. In addition, this type of machine returns the mulched clippings to the soil as valuable organic material.

In southern areas, where permanent grasses are dormant in winter, rye grass may be seeded around and adjacent to installations as a good fire retardant. Rye grass requires infrequent mowing during the winter. It is low cost protection and is used now in many government areas.

3. *Weed Control.* Mowing should be spaced to prevent smothering grasses and to discourage seeding. Most annual weeds can be killed by mowing at the time of their blossoming, and since this occurs at different seasons, areas thick with weeds must be taken care of with some frequency. Some weeds send out ground height blossoming branches from stubble. These types should be cut high the first time and as low as possible at least once more to make certain the annoying secondary growth has been removed.

Most of the troublesome weeds in lawns, athletic fields, and playgrounds include perennials, such as dandelions,

plantains (both broad leaf and narrow leaf), chickweed and others. Crabgrass is an annual that ruins many a turf area. Fortunately, besides mowing at the proper time, there are several chemical controls available. Phenyl mercuric acetate is one of these and another is potassium cyanate.

4. *Fertilizing Turf.* Good turf can be kept in good condition and weak, off-color turf can be improved if a regular program of fertilizing is followed every spring and fall. Good fertilizer practices cannot be overemphasized where the turf gets rough usage. Nitrogen at the rate of one pound per thousand square feet is helpful.

5. *Aerification.* An important aid in turf maintenance is the aerifier, a machine that opens up the soil with half-inch perforations 4 or 5 inches deep. These perforations admit air and let water penetrate properly. The use of an aerifier also permits fertilizers to drift into holes and penetrate roots. Football fields that have been aerated spring and fall become more resilient.

In taking care of such recreational areas as playgrounds, baseball diamonds, and football fields, the need for thick turf that will stand up under heavy usage must be kept in mind. These areas should be mowed more frequently than grounds that are not used so often. Frequent mowing encourages dense turf. Here, an institution has the choice of using gang mowers of the reel type or large rotary mowers. Both of these cut quickly, are



safe and economical. On such areas, height of cut may vary between 1½ inches to 2½ inches, but should not be permitted to get outside this range. The same mowing equipment also may be used to open occasional traffic spaces smooth and level enough to make them useful.

Grounds upkeep and the machinery for it always must be considered from the point of view of economy. Here are pointers on the most efficient way

of buying and maintaining such equipment:

1. *Standardization.* In mowing operations of similar character, using the products of a single manufacturer solves many problems of replacement and repair. Some machines are so designed that many parts are interchangeable.

2. *Economy of Operation.* This starts with getting the right power mower for the particular job. Many schools and colleges are augmenting equipment of the reel type with rotary type equipment. The rotary mower utilizes a whirling blade that spins at a high speed in a plane parallel to the ground.

3. *Proper Upkeep and Care of Machinery.* Many service difficulties are due to trouble caused by lack of ordinary care of equipment. They can be laid at the door of operators who failed to follow simple operating instructions or who operate equipment in a careless manner. With power lawn mowers most service difficulties can be said to be unnecessary and preventable. Such difficulties are due to worn parts, broken blades, cracked reel castings, and so on; sometimes they are due to poor handling or to poorly designed equipment unsuited to the tasks for which it was purchased.

#### INSPECTION

Part of the operator's job should include a daily check of his entire machine. Loose bolts and nuts, if ignored, can cause considerable damage. Holes become enlarged or elongated because of vibration and cause excessive movement; eventually the machine is out of alignment. If the machine uses belts, they should be checked for grease, grass and dirt to prevent slippage and excessive wear. Care should be used in the adjustment of the belt tension. A tight belt puts a terrific strain on bearings and bushings, accelerating wear and necessitating frequent changing of belts and bearings. The belt should be just tight enough for the machine to operate without excessive slippage.

The chains on the machine should be checked for alignment, proper tension, and excessive wear. When chains are exposed, greasing or oiling is not recommended. Dust, grit and dirt will adhere to a chain when oiled, acting as a grinding compound, accelerating wear of chains and sprockets. Through experimentation, it has been determined that an exposed chain will un-



Cutting grass with a 31 inch rotary-type power motor at the University of Tennessee.

doubtedly render longer service if the chain is not oiled. Chains that run in a sealed enclosure should, of course, be run in an oil bath or spray. Exposed chains, which are run dry, should be cleaned frequently in gasoline or a solvent, dipped in kerosene and hung to dry.

#### CLEANING

The operator has not completed his daily task the moment he completes the operation for which the machine was designed. The machine should be thoroughly cleaned after each day's operation with a low pressure water hose or air hose. When a water hose is used, care should be taken that water does not strike the vital parts of engines, particularly when they are hot. It is wise to use immediately a grease gun to force water out of the bearings after the machine has been washed.

#### STORAGE

Proper storage of the equipment after cleaning also is important. A damp dirt floor for storage is hard on machinery. One should be careful not to store equipment close to oil, gasoline, paint or any other of the inflammable materials.

Tied in with the operator's inspection of equipment is the inspection of the engine. The oil level in the crank case should be inspected daily and the oil should be changed every 20 to 25 hours of operation. The oil in the oil bath air cleaner should be maintained at the proper level. Filters should be cleaned at least once a week and oftener under dusty conditions. In many instances the cartridges of the filters are cleaned in a solvent and then dried by means of an air pressure hose. Air pressure will tend to create passages in the cartridge allowing free passage of grit and dirt into the engine. Drying a cartridge with an air hose is not recommended.

#### USE CAUTION IN LUBRICATING

If the engine contains a reduction gear, one should use a little caution in filling the reduction gear cases to the proper level. Too much oil is nearly as bad as insufficient oil, as it will tend to splash out, destroying the turf.

All engine manufacturers publish an operator's service manual covering their equipment, which should be consulted frequently. Such a manual includes a guide on the location of the grease or oil fittings, the type of grease

or oil to be used, and information as to how often these fittings should be lubricated. In some cases there is a tendency to overgrease, grease being allowed to drop on the grass. In almost every instance the manufacturer will caution the owner on greasing a bearing where a grease seal is used. It is very easy to destroy a grease seal by applying too much pressure with a grease gun.

#### ADJUSTMENTS

Varying temperatures have much to do with adjustments on some types of turf maintenance machinery. As a specific example, when a lawn mower reel and bed knife are adjusted in the morning, the temperature may be in the sixties or the low seventies. By noon the temperature may have risen 20 degrees or more, causing expansion and actual interference of the reel and bed knife. This interference will have to be relieved by adjustment.

Included in the manual supplied with the machinery is the suggested procedure for making adjustments, usually drawn up by the engineers who designed the equipment. Following these procedures may save both time and the replacement of new parts.



**MOOD PICTURE, MEN'S RESIDENCE HALL, CASE INSTITUTE OF TECHNOLOGY**

Looking out from a landing in one of the stair wells at Case's new residence hall. Stair wells are finished in the same light tan brick as are the corridors. The steel stairs are protected by pipe rails and aluminum handrails.



IN TUNE WITH PRESENT-DAY REALITIES of greater needs for student housing, obsolescence of old plants, higher construction costs and less money available for it, Case Institute of Technology's new residence hall, dedicated last May, was built at low capital cost. Yet it will be attractive, livable, fresh and up to date for many years at minimum maintenance expense and without costly periodic rehabilitation.

The investment in the 272 by 59 foot structure, located on the westerly side of the Case campus in Cleveland, amounts to \$1645 per student housed in 154 living-study rooms that will accommodate 304 (paired) students and three counselors. This includes ample reception hall and office areas and large utility, maintenance and storage space in the basement, with elevator service rooms on each floor.

On the easterly front, four floors of 11,000 square feet are above ground, while the steeply sloping westerly side allows another 6800 square feet above ground at the basement level, with full outside windows and the opportunity to develop it into residence rooms.

It is a wall bearing structure with reinforced concrete floor slabs spanning from the exterior masonry walls to the center corridor walls, each slab forming the ceiling of the floor below. Above grade, the exterior walls are faced with soft tone reddish-tan brick. The interior bearing walls are of common brick faced with light tan face brick to form the corridor walls. The dividing partitions of the students' rooms are of painted concrete block with tooled mortar joints, and the room exterior walls are furred and finished with sand plaster. Exterior and interior walls of the basement are of concrete.

#### "LAB-TESTED" LIVING ROOMS

To study room sizes combined with furniture arrangement and livability, J. Trevor Guy, Case architectural engineer, set up a dummy student room in near-by Tomlinson Hall. For a time it was inspected by students and written comments were invited. After some changes, two student "guinea pigs" lived in it for several weeks as a

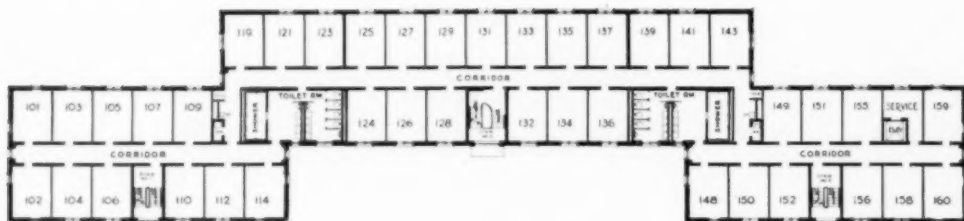


**Case Institute's residence hall was**

**"LAB-PLANNED"**

**DEAC MARTIN**  
Cleveland





FIRST FLOOR

further test. When the size and interior of the mock-up were determined, architectural and engineering experience were focused on the planning of a building whose units would be in multiples of this standard room.

Then Small, Smith and Reeb, the architects and engineers, set out to produce a building with the utmost economy of space and with simple, prac-

tical low-maintenance materials and finishes. Sound transmission, bangproof surfaces, elimination of embellishment were all subject of study and demonstration, together with unit cost on which all such decisions could be made. Up to that time, the only real contemporary economical construction had been worked out first in Vermont and later in Connecticut, but these build-

ings were constructed by methods that would not have been practical under the Cleveland Building Trades Union requirements.

The use of the underside of a flat concrete slab, painted but without plaster; painted concrete block walls unplastered; washable brick corridor walls, and other structural items used as finish surface without embellishment demanded high quality workmanship. The builders not only produced that necessary quality but also completed the work on a time schedule that was phenomenal under winter conditions.

#### DEVELOPMENT

The final determination was upon three interconnected units, each with a separate entry. The floors, landings and treads of the standard steel stairs in the entries are of nonslip terrazzo. The stairs are protected by pipe rails and aluminum handrails. The entries and stair wells are finished in the same light tan brick as are the corridors.

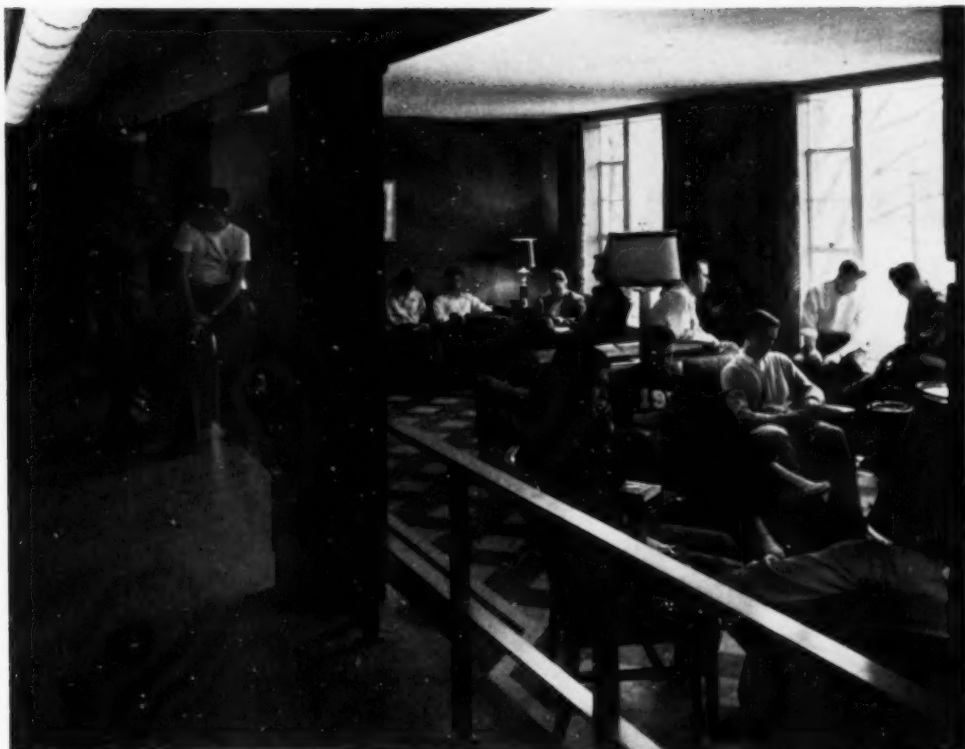
Corridor floors are finished in asphalt tile, and the ceilings covered with a strip panel of  $\frac{3}{4}$  inch light acoustical tile. Corridors are lighted by a single, continuous-run, exposed fluorescent tube.

Two toilet, wash and shower units on each floor serve the three units. They are located at the two transition points at the ends of the central unit. Use is assigned in each direction from those points, including house and pay-station telephones near by. The toilet and washroom walls are of light tan structural glazed tile, and the shower rooms have standard ceramic glazed tile walls. Flooring throughout these units is of ceramic nonslip tile. The toilet stall partitions are metal. Germicidal lamps are in each toilet-washroom unit.

Each living-study room is 11 feet 1 inch by 14 feet 6 inches. The entrance door is opposite the double win-

ROOM IN RESIDENCE HALL





LOUNGE IN RESIDENCE HALL

dow, and neither door nor window is at the exact center. In order to have orderly fenestration on the exterior, all rooms to the north of each entrance are right-handed, with the opposite to the south. Windows are steel double hung sash with bottom ventilators. Through-out the building the window sills are of stone that is resistant to stains and burns. Six standardized pastel combinations were used to give variety to the rooms. The floors are finished in various light colored asphalt tiles for good light reflection. The metal door frames contain the ceiling switch, outlets for electric shaving, and the buzzer-push-button call system unit connected with the office. There are nine electrical outlets to a room.

#### **\$330 FOR ROOM FURNISHINGS**

The students' furniture is blond maple of modern design. Each room contains two desks, bookcases, student lamps, beds and desk chairs, and a double wardrobe, lounge chair, mirror and wastebasket, also draperies, bedding and bedspreads. The beds are low box type with innerspring mattresses

and flat springs. There are two drawers beneath each bed.

The Case-designed wardrobe has three drawers for each student, a compartment for soiled clothing, and hanging space for garments. Hand luggage is stored above it. The student lamps were designed by an alumnus, Eugene W. Commerly, especially for this installation.

The 28 by 42 foot desks are of the kneehole type with drawers on the left and a pull-out panel at typewriter height. A bookcase hangs on the wall above each desk. The cost of furnishings was \$330 per student.

The pastel walls, three of them unplastered and showing a slight underlying motif of structural material patterns, white ceiling, light floor and furniture, gay draperies and student props in combination give the rooms a modern, livable atmosphere, "something to come back to."

#### **CONTROLS AND CONVENIENCES**

The sunken floor lounge on the westerly side opposite the central unit's entrance looks out upon the steep

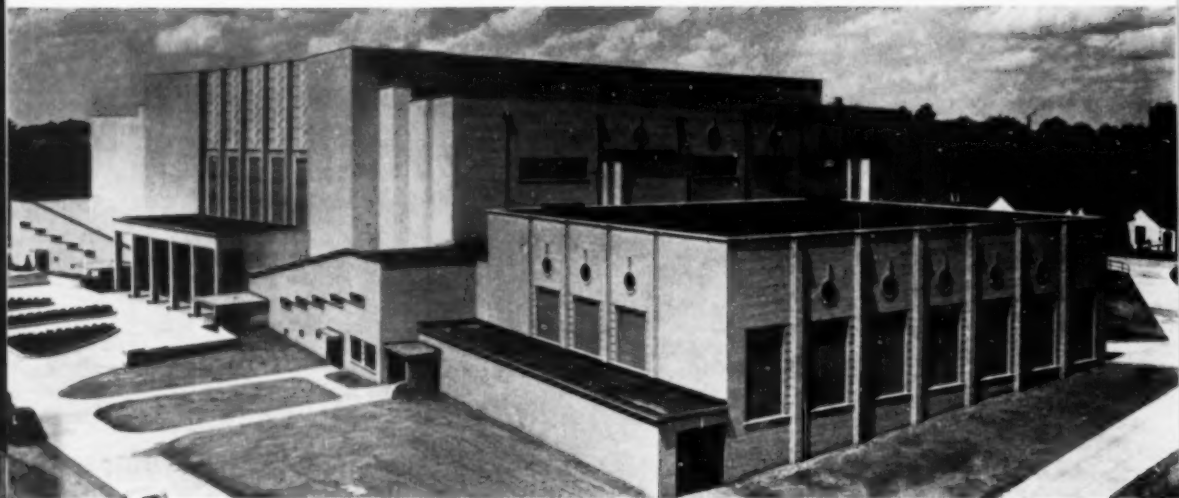
slopes, trees and shrubbery of Lilac Drive. It is finished in rift-sawed oak veneer, with an acoustically treated ceiling and light asphalt tile flooring. It is comfortably furnished in leather. From some angles there is a glimpse of the interesting pattern of aluminum faced mail boxes in the near-by mail room, which is a part of the building's office. The buzzer control system for the students' rooms is located here.

#### **COIN-OPERATED MACHINES**

Coin-operated candy, cigaret and soft drink vending machines are in this area. In the basement coin-operated washing machines, a dryer, and an electric iron and board are kept busy.

The heating is by hot water converted from steam furnished from the Case central heating plant, and the radiators are copper fin, wall-hung convector units.

The Case residence hall is an excellent example of planning to combine economy with cheery home surroundings for students, and a demonstration of what cooperation between the planners and builders can accomplish.



## MULTIPURPOSE AUDITORIUM *fits campus needs*

**PAUL CROWDUS**

*News Editor, University of Kentucky*

IN 1941, WHEN DR. H. L. DONOVAN became president of the University of Kentucky, one of his first recommendations was for a building "that will properly take care of athletics, our health service, physical education, and recreation." From that recommendation came the initial request for appropriations, and in 1942 the Kentucky general assembly made available the first construction funds.

Though actual construction work was out of the question until the war's end, plans for the building went steadily on. The original concept of a huge athletics hall underwent gradual change and, in the metamorphosis, became instead a multipurpose auditorium—a community meeting place for the entire state. It was decided, too, that the structure should be a memorial to Kentucky's Gold Star servicemen and women of World War II, a figure that was to reach 9307, and that the building would be called Memorial Coliseum.

Expanded plans for the building's use plus skyrocketing costs brought up once more the question of financing, and the 1946 general assembly approved a second appropriation. A third and final appropriation two years

later when construction was well under way brought the cost of the building to Kentucky taxpayers to \$3,100,000. A bond issue of \$825,000 was necessary to complete the coliseum, making its final price tag read \$3,925,000. Begun in April 1947, 37 months later, on Memorial Day 1950, the building was formally dedicated.

### **SEATS 12,000 PERSONS**

The yellow brick structure, classically simple in design, contains as much space as a seven-story office building covering an entire city block. For basketball, the motivating purpose behind its construction, the coliseum seats 12,000 persons and has standing room for an additional 2000. For programs, such as concerts and lectures, in which chairs may be placed on the building's main floor, the seating capacity is 15,000.

Of the building's 12,000 permanent seats, more than 80 per cent are at sidecourt. Glass backboards and the absence of vision-blocking columns give those seated at the ends of the court, too, an unobstructed view of the entire playing surface. All seats

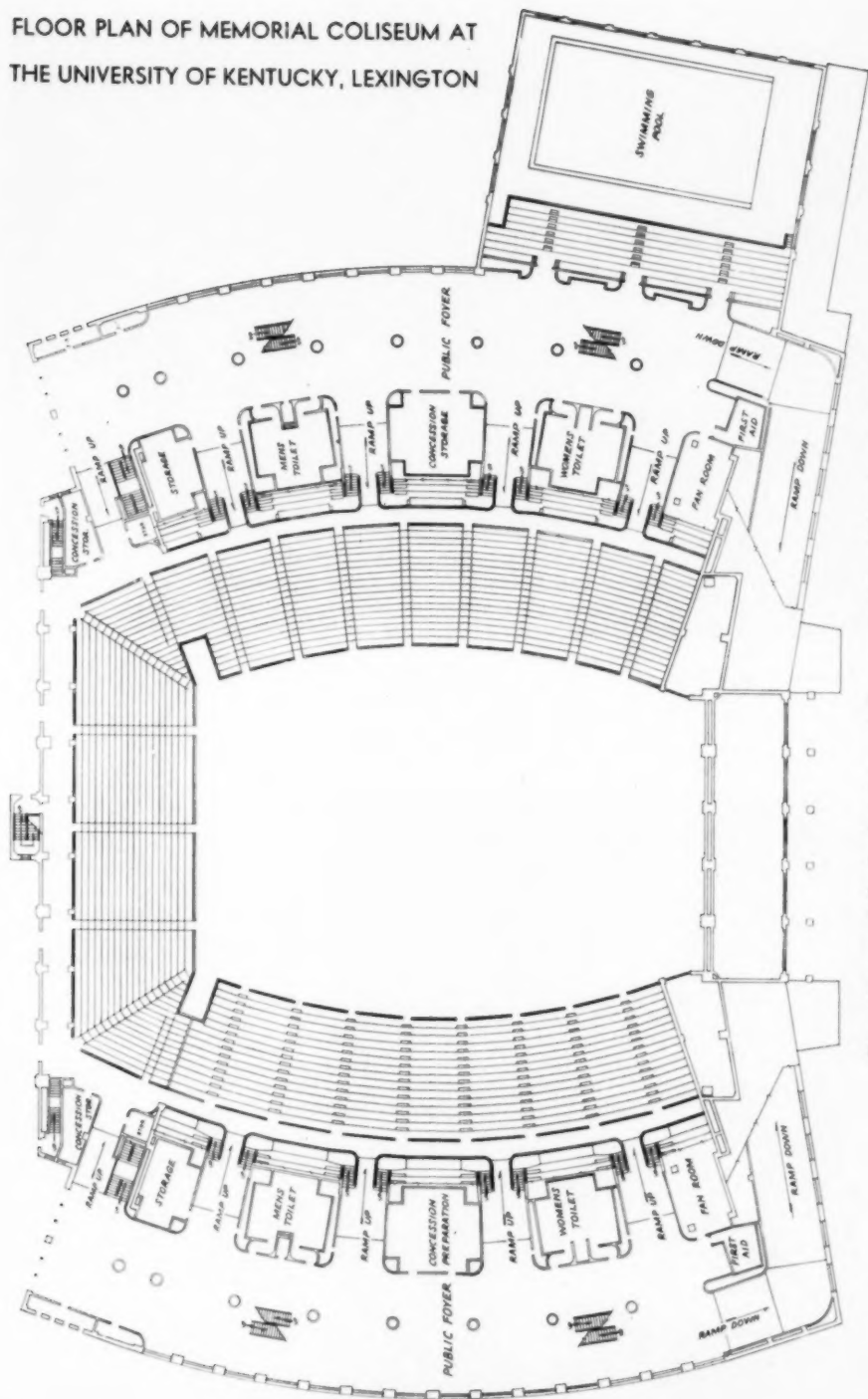
on the building's west side, more than one-third of the total, are theater type chairs. The remainder are bleacher type.

To the east of the auditorium proper is a swimming pool annex housing a six-lane, 75 foot pool ranging in depth from 3 to 9½ feet. Poolside bleachers accommodate 400 persons for swimming meets, water safety demonstrations, and diving exhibitions.

Also situated in the coliseum are the athletic ticket office and offices of the athletics director, coaching staffs, swimming pool director, and sports publicity editor. Locker and training rooms, reached only by players' entrances not open to the public, are located at ground level. A feature of the dressing rooms is a system of air circulation through all lockers which rapidly dries perspiration dampened uniforms and equipment.

Four entrances, two at the front and two at the rear, provide quick and easy access to the building, and the same system applied in reverse allows the structure to be emptied of a capacity crowd in just 10 minutes. The stuffy atmosphere usually found in an auditorium filled with from 12,000 to 15,000 persons is never

# FLOOR PLAN OF MEMORIAL COLISEUM AT THE UNIVERSITY OF KENTUCKY, LEXINGTON



Two entrances at the front and two at the rear provide quick and easy access to the building. Located on the concourses are concession stands, restrooms, trophy cases, and wall panels for photo-murals of the university's athletic teams. A trained attendant is on duty at every program in the first-aid room.



Above: Interior view of Memorial Coliseum, University of Kentucky, showing how seating capacity may be upped to 15,000 by use of chairs on playing floor. Shown here is part of the crowd that attended the university's 83d annual commencement. Below: The coliseum swimming pool, six lanes wide and 75 feet long. Poolside bleachers can accommodate 400 spectators.



encountered at the coliseum because of a combination heating-ventilating system that produces six or eight complete air changes every hour.

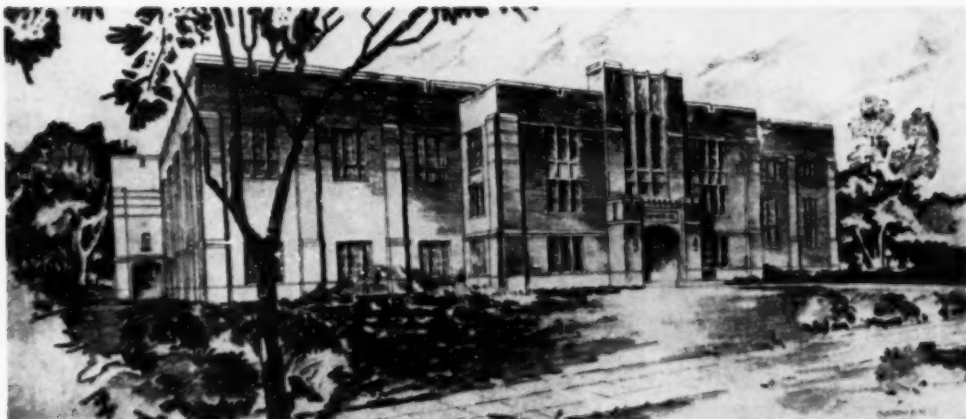
Materials used in construction included 11,000 cubic yards of concrete, 500 tons of reinforcing steel, 3,500,000 bricks, 3000 tons of structural steel, 2 3/10 acres of roofing, and 2 acres of terrazzo flooring.

High trajectory shots aimed at baskets will never bounce off the 49 foot ceiling as they often seemed to do in the old gymnasium. The trusses measure 225 feet, three-fourths the length of a gridiron. Ample working space is provided along the press row for 59 newspapermen, and there are seven radio outlets.

Emphasizing the structure's rôle as a war memorial are the prominent positions given 22 recessed wall panels in the entry ramps. Each contains a permanent plaque on which are listed the names of approximately 400 Kentucky dead of World War II.

Located in the concourses are concession stands, restrooms, trophy cases, and wall panels for photo-murals of U.K. athletic teams. A fully equipped first-aid room with a trained attendant on duty at every program is situated on the east concourse. Public telephones also are provided on both sides of the building.





FRONT ENTRANCE OF GYMNASIUM

## Low-cost GYMNASIUM-FIELD HOUSE

WITH THE COMPLETION OF THE NEW gymnasium-field house, the University of North Dakota can now boast an athletic and physical education plant comparable to that of many large universities, and far exceeding the facilities of most schools with student enrollments below 3000.

Present facilities and buildings grouped around the gymnasium-field house include a stadium seating 10,000, a winter sports building seating 3500, four combination football, soccer and touch football fields, four baseball diamonds, eight softball diamonds, two practice varsity football fields, and two concrete tennis courts. Space is available for the construction of eight tennis courts and a golf driving range and putting greens. A separate gymnasium is used for women's physical education and athletics.

### FIELD HOUSE IS SEPARATE UNIT

Although connected with the three-story gymnasium, the field house is a separate unit 160 by 240 feet. Permanent seating is provided for 3400 spectators by a U-shaped concrete balcony free of columns and other obstructions to good vision. By placing temporary seats on the main arena's earth floor around the basketball court, it is possible to seat 7500 spectators.

### MYRON DENBROOK

Wells and Denbrook, Architects  
Grand Forks, N.D.

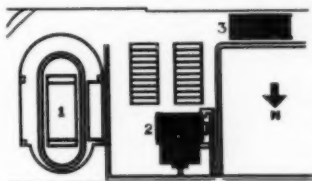
A unique feature of the permanent seating is the concourse underneath the balcony that permits spectators to enter at any of the corner towers and find their seats without going out on the main floor. Toilets and extensive concession facilities are conveniently located on the concourse.

The main arena has an open area of 100 by 210 feet with 34 feet of clearance below the roof trusses. In order to make the area serviceable for a large number of activities, the arena floor is clay mixed with screened sand to prevent extreme hardness. A twelfth of a mile track circles the open

area with a 75 yard straightaway. Basketball is played on a portable floor that can be easily removed, leaving the entire area for football, baseball, golf nets, and track.

Weather conditions often make it necessary to hold physical education classes in touch football, soccer, softball and track indoors during the spring and fall months, and this area is ideally suited for such use. A large four-sided neon figure scoreboard, all-glass swing-up backboards, and a public address system for basketball provide ideal spectator accommodations.

The arena is lighted by ninety 500 watt long-throw floodlights arranged along two catwalks between the trusses so they are accessible and adjustable. Heating is handled by radiation plus four huge air conditioners mounted between the trusses. These are arranged with a heating cycle to bring the room up to temperature and a cooling cycle that takes air from outdoors, mixes it to the desired temperature, and discharges it toward the crowd through special cooling outlets. Each unit has a motor of  $7\frac{1}{2}$  h.p. and



1 STADIUM  
2 GYMNASIUM & FIELD HOUSE  
3 WINTER SPORTS BLDG.

PLOT PLAN

will handle more than 20,000 cubic feet of air per minute.

The room is spanned by 160 foot long bowstring trusses with a height of only 12 feet at the center. These rest on steel columns that also carry the sloping steel beams of the balcony and the concourse beams. A minimum of windows of glass block is used to eliminate glare. A large door is provided at the open end for trucks.

#### GYMNASIUM

The first floor of the gymnasium is placed at ground level and contains the offices of the athletic and physical education departments, athletic team rooms, first-aid and trainer's room, faculty and student locker and shower rooms, a meeting and club room with

kitchenette, the main supply room, and a partially completed natatorium.

Lockers are connected to a locker ventilation system. Heated fresh air, supplied to the locker rooms at the ceiling, passes through the lockers and is exhausted through the roof. Team lockers are 15 by 18 by 72 inches, and storage lockers for regular classes are 12 by 18 by 36 inches, double tier. The 12 by 18 by 72 inch street clothes lockers are provided on a ratio of 1 to 6 storage lockers.

The office suite has a reception room off the lobby with a pass counter from the general office for student registration and ticket sales. A concrete vault is provided for storage of valuables.

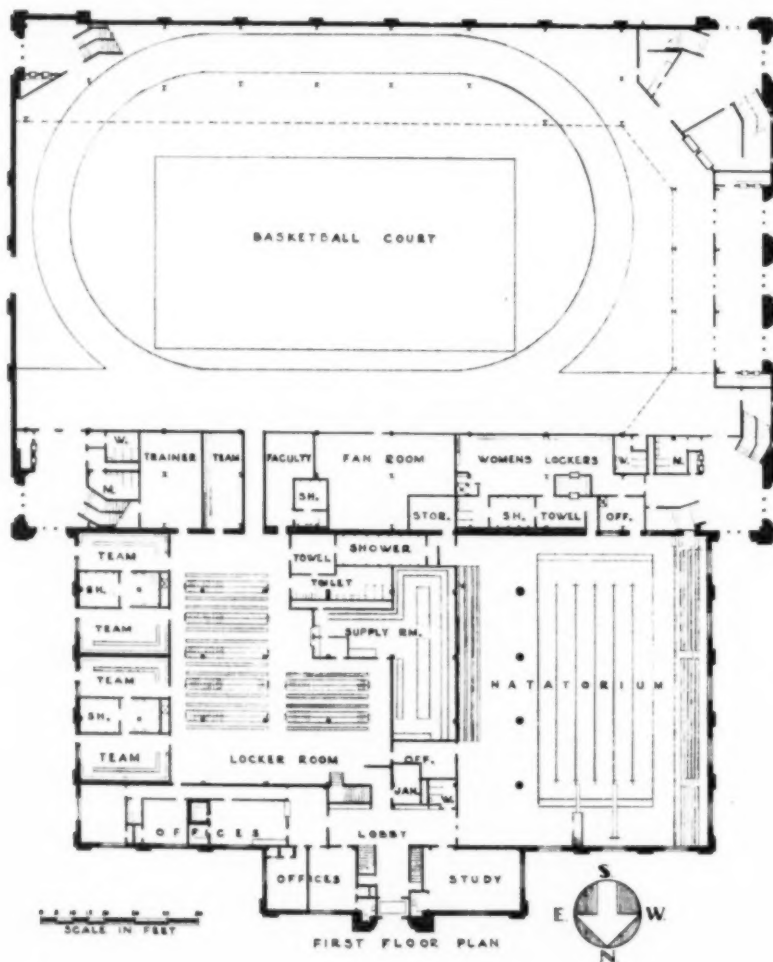
A convenient feature of the supply

room is the battery of movable carts stored under built-in counters. These may be wheeled on their large casters to the pass window, emptied, filled with returned items, and either stored or pushed to the laundry wagon. Shelving is provided above counters, and pipes are hung from the ceiling for storing team shoes.

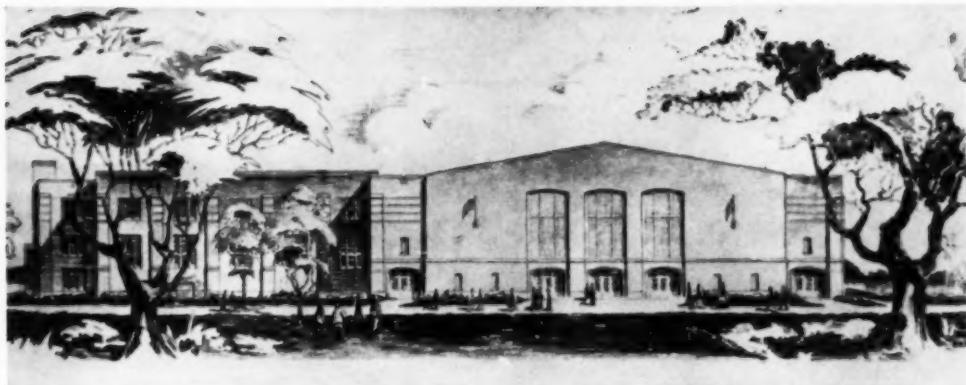
A separate stairway leads from the locker room up to the two-story gymnasiums on the second floor, serving to by-pass the public lobby for students going anywhere on the upper floors.

#### SECOND FLOOR

Gymnasiums immediately above the dressing rooms on the second floor have maple floors with subfloors laid



Left: Adjoining the ground floor level of the gymnasium are the offices of the athletic and physical education departments, athletic team rooms, first-aid and trainer's room, locker and shower rooms, and a partially completed natatorium.



Field house in foreground; gymnasium to the left.

over sleepers. The game gymnasium, 80 by 100 feet, is marked for one basketball court the length of the room, two across the room, three volleyball courts, and five badminton courts. Six backboards swing forward to the ceiling. Eyes are built into the walls and sockets are built into the floor where necessary to permit stretching nets between and across courts.

The entire east wall of the game gymnasium, 100 feet long, is sheathed with maple flooring to a height of 16 feet for tennis and handball instruction and skill testing purposes.

The second gymnasium, 60 by 80 feet, is designated as a tumbling and apparatus room and for adapted and corrective physical education. A small balcony, seating 240 for the large gymnasium, overhangs part of this gymnasium as does 20 feet of the third floor on one end. However, the free area with 23 feet high trusses measures 50 by 60 feet and serves the main purpose of the room adequately. Eleven foot ceilings under the overhanging third floor and the balcony make those areas usable for many recreational games and apparatus for corrective work. Special framing provides for apparatus suspension.

Gymnasium walls generally are tile 6 feet high with concrete block above. Nothing is permitted to project beyond the tile and thus become a hazard. Radiation and unit heaters are beyond reach, and all other items are recessed into the walls.

In an effort to reduce glare from natural lighting on the gymnasium floors, windows on the east side of the large gymnasium are small and 16 feet from the floor. Larger windows are located on the north. Light from these two directions will present no

problem. The small gymnasium has natural lighting only from a saw-tooth glass block skylight facing north.

Intramural office space is immediately adjacent to the gymnasium and close to all other activity rooms. It is large enough to also provide desk space for student groups. Also on the second floor are a well padded wrestling room, two toilets and a janitor's room.

#### THIRD FLOOR

The third floor provides three large well ventilated and lighted classrooms, a ventilated projection room, three combination handball and squash courts, and a multipurpose room, which is provided with a kitchenette, store room, and coat room.

Handball courts have extra-rigid steel framing carrying a concrete floor. Walls are finished in wood. One room has a 5 foot unbreakable glass observation window set flush on the inside.

Doors are provided across the corridor to restrict public use of the building as desired. Entrance to the activity gymnasium balcony is from the third floor corridor. A completely equipped boxing room rounds out third floor facilities.

Twenty-one intercommunication system stations link all main areas.

Heating is by campus steam throughout, with various types of heat distribution units best suited to the various rooms being used. Heating and water lines branch from the equipment room under the main pool floor through tunnels where they will be accessible for repair or changing.

Buildings on the campus are a modified collegiate Gothic style, and

administrative policy requires harmony in new structures. In order to keep the cost of the ornate features as low as possible in the new structure, they were often used to perform in practical ways. For example, the buttresses that unify the entire design are necessary for the stability of bearing walls, which are kept free of the structural skeleton. This means that beams do not have to carry heavy wall loads. Thus a compensating cost saving was achieved to balance the cost of style.

#### COST 30 CENTS PER CUBIC FOOT

Construction contracts let in April 1950 totaled just over \$800,000—slightly less than 30 cents per cubic foot for the 2,700,000 cubic feet enclosed by the structure. This compares with costs of 50 cents to a dollar for comparable buildings elsewhere, many of them less finished and not subject to the extreme temperatures of North Dakota, which require deeper footings, more insulation, double glazing throughout, and more expensive heating systems. An additional \$50,000 was allotted for equipment, including a portable basketball floor, scoreboard, backboards, bleachers, lockers, apparatus, office furniture and equipment, arm chairs, and miscellaneous supplies.

An example of careful design was the choice of insulating lightweight concrete blocks instead of clay tile as back-up (behind the face brick) in outside walls and for partitions. This makes a warmer wall, serves as a sound deadener, saves plaster because the block provides a pleasing appearance when exposed, and at the same time saved an estimated \$35,000 in construction costs.



*We use our regular maintenance men*

## WHEN REDECORATING

**WALLACE A. MOYLE**

Supervisor, Plant and Maintenance  
University of Connecticut, Storrs, Conn.

THE END RESULT TO BE ACHIEVED in the redecoration of any building requires evaluation of the standards to be maintained, the cost involved, and restrictions imposed by normal operations.

It is not possible to evaluate all the pros and cons of this subject in one short article. This discussion will indicate some reasons why the University of Connecticut believes a better result is obtained through utilization of university maintenance personnel in redecoration of residence halls, and in fact all physical plant structures, than

if this work is done by contractual arrangement with outside painting contractors.

The university plant, rapidly expanding, comprises some 300 buildings. These vary in size from chicken houses to newly constructed residence halls, faculty apartments, and academic buildings. Most of these buildings are in continuous use to meet the needs of students and other groups ranging in size from 6500 during the academic year to 2500 during the summer.

The larger cities in the vicinity, where major contractors and large

numbers of skilled building tradesmen are to be found, are at least 30 miles distant from the campus. Tradesmen employed by contractors usually must be paid premium rates covering wages and travel to induce them to work on university projects.

The university is essentially a self-contained community of some 7500 persons. It owns and operates a water supply and distribution system, a modern sewage collection and disposal system, a modern security department equipped for police, fire, watchman and ambulance service, and a substantial number of housing units for staff and faculty.

These factors impose the need for operative and maintenance personnel in sufficient numbers with adequate ability and dependability to assure uninterrupted daily service throughout the year. A sizable force of skilled tradesmen and laborers is employed and its use in performing higher echelons of maintenance has been found most satisfactory.

An important consideration is the ability and willingness of skilled trades employees to perform as journeymen of former years were expected to operate before unionization began to impose restrictive specialization. During the initial employment interview each new applicant is advised of this requirement and it is a condition of his employment. On-the-job training is given all members of all trades crews as time and opportunity permit. Painters, for example, are eventually trained in preparation as well as use of painting materials, in the use of brush, roller and spray painting and application of all types of wall covering. Their work includes such things as sanding and refinishing of floors and initial waxing, glazing, and waterproofing exterior and interior surfaces. Such training produces a crew of versatile tradesmen prepared to operate as part of the maintenance team.

The standards to be maintained are determining factors in redecoration of residence halls. These standards should at their lower limit provide protective coverage of surfaces at all times and a reasonable attractiveness to the occupants and their parents at the beginning of the school year. Experience at the University of Connecticut is that women's residence halls require redecoration once every seven to 10 years as preventive maintenance and to restore attractiveness. Men's residence halls require redecoration as

corrective maintenance in approximately half that time. To maintain attractiveness all walls of the residence halls are washed during the summer.

Proper standards must include the characteristics of the material used. This requires a continuing study that can best be carried on by university personnel where through selection, application, preventive maintenance, and continuing inspection the performance of materials is observed and evaluated by the several components of the university maintenance team, including planners, tradesmen and custodial employees, all of whom have a day to day interest in the problem. For example, in new buildings overhead lighting has been eliminated in sleeping rooms and modern illumination in residence areas is, in the main, provided by desk and floor lamps.

It appeared the slight increase in sheen of flat enamel as contrasted with flat paint would not be objectionable. The greater durability of flat enamel appears to offer enough advantage to justify its use and additional cost and it has been applied to extensive experimental areas. Its failure to meet expectations would not be too difficult to correct if available university personnel can be used. Corrective work by contractual arrangement would be costly. In other areas experiments with rubber-base paints are being conducted in the continuing search for materials that will economically increase the standards for this item.

#### STANDARD OF WORKMANSHIP

There is also the standard of workmanship. University employees are employed on an annual basis and their compensation, including benefits, compares not too unfavorably with that of union skilled tradesmen. Continued employment and supervision permits assignment of employees to jobs commensurate with their abilities. This results in a consistent work performance both as to quantity and quality and is reflected in the finished product. Tradesmen, faculty and administrators live quite generally in the community, attend the same churches, intermingle in community activities, and otherwise know one another, and a pride has resulted that contributes noticeably to the standard of workmanship. Frequent notes of appreciation received from department heads and occupants of buildings contribute materially to the morale and feeling of university team membership among personnel of



the maintenance crews, which is reflected in a high general level of performance.

When standards to be maintained have been decided, the relative cost must be evaluated. Through trial and error the materials required to support the standards established here have been found to be in the higher cost levels. It may be categorically stated that good materials and good equipment are relatively smaller considerations if they meet exacting operating standards. With the factors of materials and equipment being substantially the same and the per hour labor cost less than contractual hourly wages and with the elimination of contractors performance bonds, insurance and additional supervision, it is found the same job specifications can be met with a saving of from 30 to 40 per cent. Thus far, expert interior redecoration has not exceeded six or seven cents a square foot in an area in which contractual costs are approximately double that figure. Even if the hourly labor rates were equal the cost per square foot would be substantially less because of a higher morale factor and the feeling of team membership in the university community and of job security.

Flexibility is a "must" in arranging repairs and alterations in any plant that operates daily throughout the entire year. Properly applied, this factor contributes to lower costs. It is more easily attained when the tools and materials are controlled by the parent organization than if they must be purchased on the open market.

Flexibility is achieved in several ways. Certain areas, both interior and exterior, lend themselves to spray painting with trim and "cutting-in" done by brush. It is possible to accomplish a spray painting job with less experienced and often less expensive labor and without the restrictions and premiums imposed upon a contractor by union regulations. An example of such a saving worth mentioning was the repainting of two 83 feet high water tanks with a combined capacity of 960,000 gallons. Contractual estimates approximated \$3000. The per-

sonnel of the painting department of the university maintenance team was asked to consider use of paint spraying equipment. It was agreed the job could be done in this manner with fewer men, with less equipment, and with greater safety. The total cost of the job, including the purchase of large capacity spraying equipment, was \$1750, a saving of \$1250 plus acquisition of new equipment.

Further flexibility in redecoration is obtained by establishment of work schedules which can be comfortably met by using university personnel but which experience shows frequently result in serious dislocation under contractual arrangements because of the inability or unwillingness of contractors to provide sufficient labor and material at the right time.

The university public and personnel relations problems with regard to students, students' families, and faculty are more easily controlled when university tradesmen are concerned than when outside artisans over whom the administration has little or no direct control are involved. Contracts for large jobs at the university are prepared and awarded by public bidding handled by another state agency, and the university cannot exercise jurisdiction until the work under contract has been completed.

#### SUPERVISION SIMPLIFIED

There is also the item of administrative supervision. Where university employees are concerned, the size of this problem is reduced by the knowledge of the capabilities of the foreman and tradesmen involved. Where contractors are concerned this can be, and usually is, an annoying and time consuming item depending upon the contractor. Color selection and standardization are relatively simple problems when the university maintenance department can test and select the materials and procure them in quantities sufficient to meet the annual or semiannual needs, thereby better assuring matching of colors, consistent material performance, and savings in the cost of materials.

Experience thus far at the University of Connecticut is that a thoroughly satisfactory job at substantially lower cost, a higher standard of workmanship, and greater flexibility and control under existing operating conditions can be obtained by use of regularly employed university maintenance personnel in redecoration of residence halls and, in fact, all buildings.



# THE COLLEGE LANDLADY SEEKS PROTECTION OF THE COURTS



**T. E. BLACKWELL**

Vice Chancellor and Treasurer  
Washington University, St. Louis

THE RUSH OF VETERANS RETURNING to the colleges to continue their education interrupted by World War II created an acute housing problem on almost every campus. To meet this need at the University of Oklahoma, the state legislature, in 1945, created a special housing authority as a body corporate, with power to erect residence halls and create and furnish dining facilities. The membership of the board of directors of the University of Oklahoma Housing Authority was made identical with that of the board of regents of the university.

Acting under the provisions of this legislation, the board of regents issued revenue bonds to finance the cost of construction of the needed facilities. These bonds contained covenants to the effect that the board of regents<sup>1</sup> would, in order to assure the prompt payment of principal and interest: "make and enforce such rules and regulations with reference to the use of the building, and with reference to requiring any class or classes of students to use the building as it may seem desirable for the welfare of the institution and its students . . . and to maintain a maximum percentage of occupancy of the building."

## PICTURE CHANGES IN 1950

In September of 1947 the board of regents adopted a resolution requiring all students, with certain exceptions, to live in university operated houses to the extent such facilities were available. For several years after the war the number of students enrolled at the university was substantially in excess of the capacity of the university operated housing units. Therefore many students were free to live in private rooming and boarding houses of their own selection. However, by 1950, the

enrollment had dropped to the point where it became necessary to bring pressure upon students to live in the university operated houses.

Mary Pyeate, a resident of the college town of Norman, Okla., had operated an approved private rooming house near the university for several years. She now found that it was no longer possible for her to fill her rooms with students. Faced with financial loss, she filed suit in the federal district court against the board of regents of the University of Oklahoma and the University of Oklahoma Housing Authority on the grounds that the defendants were violating her constitutional rights in the following particulars:

"1. That the rules pertaining to housing of students . . . deprive the plaintiff of her liberty to contract and of her property without due process of law, contrary to the Fourteenth Amendment to the Constitution of the United States.

"2. That the rules, insofar as they permit fraternal organizations and a dormitory known as Newman Hall, run by a religious organization, to contract with students for room and board, while denying a similar privilege to the plaintiff, are unreasonable, arbitrary and discriminatory, and deny to the plaintiff the equal protection of the laws."

The court disposed of the first contention of the plaintiff in the following excerpt from the opinion.<sup>2</sup>

"When a state, acting in a proper sphere, passes regulations which are valid and suitable to attain a desired end, the mere fact that such legislation or regulatory measures have an incidental effect upon a few individ-

uals does not make the regulations invalid or abridge the constitutional rights of the individual. . . . The state has a decided interest in the education, well being, morals, health, safety and convenience of its youth. When a situation arises where it becomes necessary to expend great sums for buildings to house students . . . and when it becomes necessary for rules to be passed to provide payment for such buildings . . . such rules will be valid as a means of accomplishing the over-all policy of furnishing the needed facilities."

## SECOND ISSUE MORE DIFFICULT

The court agreed that the second issue raised by the plaintiff, i.e. that of discrimination against her as a private householder as compared with rights granted to the fraternities and to Newman Hall to continue to house students, was a more difficult question. It answered it as follows:

"The university in its over-all program for housing facilities has evidently come to rely in great measure upon the fraternal dormitories and Newman Hall as a complement to the housing owned and managed by the university itself. These dormitories are not available for any purpose other than housing students, and past experience indicates that they will be available to the university at all times. On the other hand, the private homes such as that owned by the plaintiff are not an integral part of the housing program but are furnished mainly for the purpose of earning for the benefit of the private owner. The private home owners may at any time use their homes for a variety of purposes and without any restrictions may deny their use to the university for the housing of students. It is true that many private homes were used in the past for the

<sup>1</sup>70 O.S.A. PAGE 2073.

<sup>2</sup>Mary Pyeate v. Board of Regents of University of Oklahoma, et al., Fed. Sup. (1951).

purpose of housing facilities for students and for this the private home owners are to be commended. However, it appears that in the light of the over-all picture the classification which has been made by the university board of regents is a reasonable one and not arbitrarily or capriciously exercised to deny to the plaintiff the equal protection of the laws."

#### **SIMILAR CASE IN COLORADO**

In 1934, a similar case arose in Greeley, Colo. Homer Hoyt, owner of a student boarding house near the State Normal School, heard of plans of the trustees of the school to borrow federal funds to construct student dormitories. Rather than waiting until after the dormitories were built, as Mary Pyeatte did at the University of Oklahoma, Hoyt filed for an injunction at once to restrain the trustees from consummating the loan, on the grounds that the covenants of the proposed loan agreement would compel the trustees to require the students to live only in the dormitories owned by the school and that such regulations would impair the freedom of contract of the students. The court, in its opinion<sup>3</sup> handed down in 1935, ruled that only a student or his legal representative could raise this question, and it declined to state how it would decide such a case, if the plaintiff were a student and not the owner of a boarding house.

The Oklahoma court also took cognizance of this aspect of the problem. It pointed out that if any rights had been violated, it was that of a student to contract for a place to live of his own choice. Although no student had

challenged the regulations, the court proceeded to answer the moot question as follows: "There is no absolute and unequivocal right belonging to any individual to attend the university free of restrictions or rules pertaining to admission."

In support of this dictum, the Oklahoma court cited two<sup>4</sup> decisions of the Supreme Court of the United States, one involving the University of Mississippi and the other, the University of California.

In 1913, J. P. Waugh, a member of the Millsaps College chapter of the Kappa Sigma fraternity, was refused admission to the University of Mississippi because he declined to renounce his affiliation with his fraternity, as required by university regulations. He brought suit to compel the university to admit him on the grounds that the regulation impaired his constitutional rights. The state supreme court<sup>5</sup> sustained the constitutionality of the requirement on the grounds that:

"The right to attend the educational institutions of the state is not a natural right; it is a gift of civilization, a benefaction of the law. If a person seeks to become a beneficiary of this gift, he must submit to such conditions as the law imposes as a condition precedent to this gift."

#### **SUPREME COURT SUSTAINS DECISION**

This decision of the state court was sustained by the Supreme Court of the United States in 1915. However, in

<sup>3</sup>*Waugh v. Board of Trustees of the University of Mississippi*, 237 U.S. 589 (1915).

<sup>4</sup>*Hamilton v. Regents of the University of California*, 293 U.S. 249 (1934).

<sup>5</sup>*Board of Trustees of University of Mississippi v. Waugh*, 62 So. 827 (1913).

<sup>6</sup>*State ex rel. Stallard*, 82 Ind. 278 (1882).

1882, the Indiana supreme court<sup>6</sup> had held invalid a regulation of Purdue University which made membership in a Greek-letter fraternity a disqualification for admission. Although admitting the broad powers conferred upon the trustees of the university, the court held that "the possession of this great power over a student after he has entered the university does not justify the imposition of either degrading or extraordinary terms and conditions of admission."

#### **CITE CALIFORNIA CASE**

In October of 1933, Albert W. Hamilton and other students of the University of California were suspended for refusal to take the required military training courses. The students claimed, in their suit for readmission, that compulsory military instruction was a violation of their right, under the Fourteenth Amendment, to religious liberty. They declared that their church, the Methodist Episcopal, at its General Conference of 1928 had "renounced war as an instrument of national policy and petitioned the United States government to grant exemption from military service to such citizens who, as members of the Methodist Episcopal Church, conscientiously believe that participation in war is a denial of their supreme allegiance to Jesus Christ."

Mr. Justice Cardozo dismissed this objection in the following words:

"Instruction in military science, unaccompanied here by any pledge of military service, is not an interference by the state with the free exercise of religion when the liberties of the Constitution are read in the light of a century and a half of history during days of peace and war."

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## *Presidents and Trustees...*

... of colleges have many problems that must be handled to the mutual satisfaction of both if the institution is to continue effectively. Ralph Watts of Lawrence College will suggest in the April issue the areas in which trustees and president must operate to maintain a harmonious relationship.

# Causes and Cures of Employee Problems

1. WHERE TO FIND THEM
2. HOW TO HOLD THEM
3. HOW TO TRAIN THEM

ALBERTA M. MACFARLANE

Food Service Consultant, Chicago

HOW TO GET AND HOLD AND TRAIN food service employees is the problem uppermost in the mind of every quantity food operator today. My purpose in discussing this topic is not to point out any revolutionary ideas on this subject. Rather it is to review what can be done as we face the situation intelligently and to emphasize methods that have worked and will work; methods that from now on should be the policy of every food operation, whether large or small; methods that in the hustle and bustle of the day's work are likely to be overlooked.

## WILL BECOME MORE ACUTE

The problems of obtaining, holding and developing a satisfactory work force are with us right now. And these problems are going to be more acute.

Many workers have entered and will continue to enter the armed services. Others are leaving institutions to work for higher wages in defense plants. New workers of a high caliber are already hard to find. Such labor shortages put a physical and an emotional strain on all employees and on the morale of your whole operation. What can be done about it?

We will find there is a great deal that can be done to alleviate the situation if we face the future with foresight and intelligence. This is not the time to sit back and say: "There is

nothing I can do about it." Such an attitude spells failure.

## HIRE OLDER PEOPLE

We must start today to change some of our long established policies and deep rooted procedures. One of the first of these will be to break down our prejudices about hiring older people to work in the food departments. Let us look at the handwriting on the wall—or to be more specific, at the 1950 census.

This picture is set forth in a provocative article, "Population Trends and Management Policy," by Peter Drucker in the June issue of the *Harvard Business Review*. To quote:

"Population trends may be a more important factor in the success, if not the survival, of most businesses in this country over the next 25 years than even economic frustrations." Mr. Drucker then points out changes in the age population. Some of these are:

1. There will be a great shortage of young people ready to enter the work

force in the entire decade of 1950—the result of the lean baby crop in 1930.

2. Supply will reach its lowest ebb in 1953 and will not increase to any extent until 1957-58.

3. There will be a sharp increase of young people reaching working age in 1960—the result of the rich baby crop in 1940.

4. There will be a steady increase in the number of old people. Mr. Drucker goes on to say: "It is not understood by management that it is the qualitative aspect, the change in the composition of the work force, that will cause the greatest headaches."

Everyone is going to have to rely on older people for employees. But our concept of the productivity of old age is obsolete. Social security and old age benefits have virtually made 65 the definition of old age. This was based on conditions that obtained years ago when a man who reached 60 or 65 was incapable of work. Our life span is now much longer and the productivity of the worker 65 or older is much greater. Experiments and research have shown that, if he is properly placed and trained, the older worker can be as productive as are the younger ones. A survey of 100 companies in New York State—large, medium and small—showed that in three out of four companies, older people actually produced as much as the younger ones did and in most firms the quality of their work was better.

Every organization's labor force, regardless of the draft and stepped-up military production, is bound to get



This is the first section of Miss MacFarlane's article on food service employees. The second section, dealing with the training of employees, will appear in another issue of this magazine.

older. We must make up our minds that we have to use older workers. And one of our main sources of supply will no longer be the young woman but the older woman with half-grown children—a new source of labor.

#### WHERE TO GET THEM

Perhaps your institution like many restaurants has always maintained a policy of "No Relatives Hired Here" or "No Married Women Employed." If so, you will want to tear down those signs in a hurry and put out the welcome mat for married women and employees' aunts, uncles, sisters, brothers and cousins. Many firms are paying a cash bonus to employees who can bring in other workers.

Use employment agencies, private and government; contact schools; arrange trips through your food department for high school and college students to interest them now and for long-range results; contact retired workers; check your application files for prospective workers; use handicapped workers wherever they will fit in. (The late Al Carder of Carder's Restaurant, Chicago, employed a blind man on his passenger elevator during World War II. This handicapped man did a remarkable job.) If your institution is in an outlying district, use farm workers part time, or, in the winter-time, full time.

For larger institutions, there is always the possibility of advertising through newspapers. When you spend money for advertising, you are investing in personnel. Don't be shortsighted and write an abbreviated advertisement. You have all seen specimens like this:

"Wanted: Cook exp., good sal., ref.'s req'd, chance for adv., hosp. and other benefits, N.W., etc."

This has no pulling power. Rather write an advertisement that will attract the better type of food service worker. If possible, use a boxed space with plenty of white margin around the wording for easy reading. Write out every word. Make the position sound attractive and your institution a desirable place to work. Choose your words carefully. Don't advertise for a "dishwasher" but for "a dishroom operator" or "dish machine operator." Unless they are closely related, don't announce two positions in the same advertisement. Neither gets attention. It is wiser to take separate ones.

You will want to use every available medium at your disposal to build up a

list of available workers now. Anticipate your turnover and examine every job in your food department to see if it can be filled with older workers, women with half-grown children, young women or handicapped workers.

#### HOW TO HOLD EMPLOYEES

In normal times, to hold our employees, we would first show great selectivity in our hiring. Today the choice is limited. We have to make the best of our labor market and to a greater extent assist the worker to develop on the job.

Apart from the draft, whether you keep your employees or not will de-



pend in a large measure on the conditions within your own department. I asked Arnold Shircliffe, manager of the Wrigley Building Restaurant in Chicago, for his formula and this was his reply: "You have got to be right with yourself, right with your employees, and when your employees believe in you, there is no way of getting them away from you. No employee will do good work or stay long in your employ if he is unhappy, feels he does not belong, is not recognized as one of the team, does not know where he stands with his supervisors and fellow workers. Such desires cannot be checked in his locker in the morning with his coat and hat. They are punched right in to his job and affect very much what goes on during the day."

Dr. William Foote Whyte in his book, "Human Relations in the Restaurant Industry," brings out these points effectively. He points out that if employees are to remain happy and satisfied, the channels of communication must be kept open. There must be good communication all along the way, not only from the top down but from the bottom up—not only from the supervisor to the worker but from the worker to the supervisor. These

channels must be kept open for the worker to get off his chest what is on his mind.

Let me illustrate. Supervisors tell employees what is to be done or what is wrong. Often an employee meeting is called to do this. But do your workers have the privilege of calling a meeting to tell their superiors what is not to their liking? This is the policy in a chain of restaurants renowned for good human relations. Recently the waitresses in one of the stores of this chain had a difficult time during the breakfast period. When serving time was over, they called a meeting, invited the manager and supervisors and stated their complaints. A discussion followed, difficulties were soon ironed out, and the workers were happy. They could have nursed their grievances and upset the whole organization; instead they knew that they could bring their problems to an understanding and fair management for the lines of communication are always kept open.

An executive worthy of the name must be generous with praise—not empty words but heartfelt plaudits. He knows no pay envelope, no promotion, no fine equipment, and no external factor can mean as much to a worker as being sincerely appreciated. It is not by chance that one of the most popular quotations from the Bible is: "Well done, thou good and faithful servant." When this is sincerely expressed, it strikes a responsiveness in every heart.

#### HIDDEN VALUES

We hear much today about "hidden costs." It is high time we looked for "hidden values." When we do, we may revise our notions of "who is capable of what." We should recognize persons worthy of promotion early, help them develop, keep track of their progress and promote them into the right job when they are ready. In other words, wherever possible, promote from within the organization.

At the same time we should make it a point to show employees the hidden values they receive. Some of these will be free meals or meals at a discount, uniforms, laundering of uniforms, and benefits specific to your own operation. Point out that increased costs on all of these have been absorbed by the college—not by the employees. Take time to make a chart to show all the benefits your employees receive and what they amount to in dollars and cents. Make comparisons

with outside jobs. Unless this is done, hidden values will pass unnoticed and not be appreciated by the employee.

#### **EMPLOYEE MEALS**

An important factor in keeping employees is to see that they get good meals and have an attractive dining room in which to enjoy them. This does not mean they must be fed chops, chicken and steaks. But it does mean that their food must be of good quality—the quality you would like to put before your guests. If meals do not go with the job, employees should have the privilege of buying them at a discount.

Let us review some of the things that can be done to hold the worker on the job:

1. Train these workers in their jobs (more about this later) and encourage them in their endeavors.
2. Give special attention to supervision and follow-up. This new type of worker is going to be more difficult to direct. The older woman has been used to going her own way.
3. Supervise the supervisor. The University of Illinois made a study to see why 600,000 workers in Illinois left their jobs annually at a cost to employers of \$50,000,000. In all, 75 per cent quit for reasons that could have been avoided by efficient management action; 39 per cent of employees covered in the sample left because of supervisory trouble.
4. Have more than one worker capable of doing the same job productively. This will assist in breaking in the new worker and tide you over many labor shortages.
5. Promote from within wherever possible.
6. Pay attention to employees' meals.
7. Strive for good human and public relations.

#### **BE SCIENTIFIC**

In making the food department one that will stand the stress and strain of our times, one must have not only social awareness—responsibility to students, to faculty, to employees and to the community—but also the knowledge to apply scientific techniques and management to the job. Only in this manner can manpower be conserved. Here are a few things that will help the food director in her efforts:

1. Have a job description of every job in the food department. Each job should be broken down step by step so that the supervisor and the

worker know exactly what is required in that position.

2. For all jobs in which trouble is experienced or in which there is a large turnover, make, or have an experienced outside person make, a work simplification study. When this is done some elements of the jobs may be simplified, eliminated or combined to make the job easier and more efficient. A time and motion study may be a part of this work. A stop watch is not needed. Observation and common sense will soon tell where the waste motions are or where extra mileage is being run up.

I made a study recently of a food operation where the dining room seated 200. At no time during the survey were more than 300 people served at one meal. Three full-time bus boys and one part-time worker were doing the bussing. Each would pile the soiled dishes on a small cafeteria tray and walk from 20 to 55 feet to the dishwashing room. Many, many trips had to be made in the course of the meal. The supervisor had been so close to the operation for so long that she took this procedure for granted. Herein lies the value of having an outside experienced person do such surveys. He knows just what to look for and can quickly spot weaknesses in the organization. When two attractive, stainless metal, rubber-tired trucks with compartments for silver, china, glassware and refuse were installed, two full-time workers were able to do the job efficiently. The other workers were released for other work, and in the bargain, the job was more effectively done.

#### **HOW TO USE SKILLED LABOR**

Let us now see how we can take advantage of more skilled labor. The answer is by taking advantage of the latest and best equipment. We must recognize that "routine means machine." A worker should not be expected to do routine work if a machine can do it. An employee should not be wasted even if the machine costs more money and the job could be done by the worker at lower wages. We must take a long-range view. The short-range view is that the machine costs more money now. The long-range view is that the machine releases the worker for more skilled work, raising his ability and his value as a worker.

There are many good machines on the market for quantity food operation. And there could be many more effi-

cient ones. But many food operators are not taking advantage of the machines already available. Look over your operation to see where conveyors and subveyors, garbage disposal or food waste units, equipment on wheels and many other time and labor saving devices could be installed. Does your dishwashing unit rinse, wash and dry your dishes or are you still having the rinsing and toweling done by hand? Or perhaps it is the little gadgets that are missing from your operation. For instance, does one of your workers have to cut a lemon into 10 sections with a knife or do you have a lemon slicer that does this with one stroke? Look over your equipment today. Discuss improvements with your superiors and endeavor to install in your institution every necessary piece of equipment within your budget.

#### **REDUCES PHYSICAL LABOR**

Another important reason we should mechanize our operations to the limit—if we can obtain the equipment—is that in the employment of older workers we must cut down on the requirements of physical strength in the work. We need more conveyors that will eliminate carting and hauling, more equipment that will do away with stooping and bending, and more machines that will eliminate operations that require physical strength or discomfort.

Many improvements could be made in our present-day equipment and we do not always have to wait for the manufacturer to make these improvements. Even unskilled workers can offer suggestions to improve the equipment with which they work. We should encourage them to make suggestions for better work methods and better equipment. We must look to technological developments to help us with some of our manpower problems. There is a bakery in Pennsylvania that turns out 1000 loaves of bread a day with only six workers. Everything possible is done with the machine.

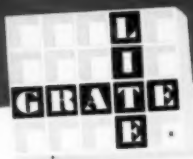
To conserve manpower further, cut down on operations within your own organization by the use of prefabricated foods, frozen foods, commercially peeled potatoes and apples, prepared mixes, and so on. This may require some changes in your present policies but change is bound to be the order of the food operator's day. We all fall into a pattern but we must be willing to fall out of it to meet the present situation.



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# NEWS

**Workshop for Business Managers . . . Revised Version of U.M.T. . . Report**

**Findings on G.I. Bill . . . Says Government Was Overcharged . . . Refuse to**

**Police Football . . . Television Seminar . . . Ban Spring Football Practice**

## **Summer Workshop for Business Management at Omaha July 28-August 2**

OMAHA, NEB.—All faculty appointments have been completed for the third annual summer workshop for college business management at the University of Omaha, July 28 through August 2, according to an announcement by Charles W. Hoff, vice president of finance at the university and chairman of the advisory committee for the workshop.

Lloyd Morey, controller of the University of Illinois and author of "University and College Accounting," will be the speaker at the opening convocation of the workshop on Monday morning, July 28. Lectures and class discussion at this year's workshop will center on the following areas: budget preparation and control; business management; philosophy of higher education; current national problems; research problems and techniques; nonacademic personnel problems; practical accounting and reporting in small colleges; administrative organization; purchasing; buildings and grounds supervision; auxiliary enterprise controls, and public relations.

The basic lectures on college business management will be presented by Raymond W. Kettler, controller of Purdue University. Clarence Scheps, assistant to the president of Tulane University and author of "Accounting for Colleges and Universities," will lecture on budget preparation and control, and practical accounting and reporting in small colleges; Dr. Frank A. Gorman, dean of the college of education at the University of Omaha, will lead the lectures and discussion on the philosophy of higher education; James L. McCaskill, head of the legislative division of the National Education Association, will handle a course on current national problems and also

a course on administrative organization; Donald E. Dickason, director of nonacademic personnel at the University of Illinois and director of the university civil service system for the state of Illinois, will lead a class on nonacademic personnel problems.

Granville K. Thompson, specialist for college business management in the U.S. Office of Education, will lecture on administrative organization and auxiliary enterprise controls and will also lead a group on aids to business management of higher education in the U.S.A.; a class on college purchasing will be handled by Joseph Dellere, purchasing agent of the University of Omaha; J. D. Adwers, superintendent of buildings and grounds at the University of Omaha, will head up a class on buildings and grounds supervision; a class on public relations and the college business office will be directed by Harold W. Herman, editor of COLLEGE AND UNIVERSITY BUSINESS.

Inquiries relative to registration in the summer workshop for college business management should be directed to Charles W. Hoff, vice president of the University of Omaha.

## **Five Church Related Colleges Form Foundation**

BUCKHANNON, W.VA.—The five church related colleges of West Virginia have formed the West Virginia Foundation of Independent Colleges. They are following the pattern established for private colleges in Ohio, Minnesota, Indiana, Michigan and Oregon.

The new foundation will seek to inform the public of the aims and services of the state's independent colleges, to offer an agency by which corporations and individuals may contribute current support to independent higher education, and to accept gifts, wills, trusts and estates for budgets of member institutions.

## **Revised Version of Legislation on U.M.T. Is Introduced**

WASHINGTON, D.C.—The House armed services committee issued its report on H.R. 5904 (U.M.T.) on February 19 and introduced a revised version of the legislation, approved by the committee by a vote of 27 to 7. Final House action on the measure is expected early in March. Senator Russell, chairman of the Senate armed services committee, has indicated that the Senate version, S.2441, will not be brought to the floor until after House action has been taken.

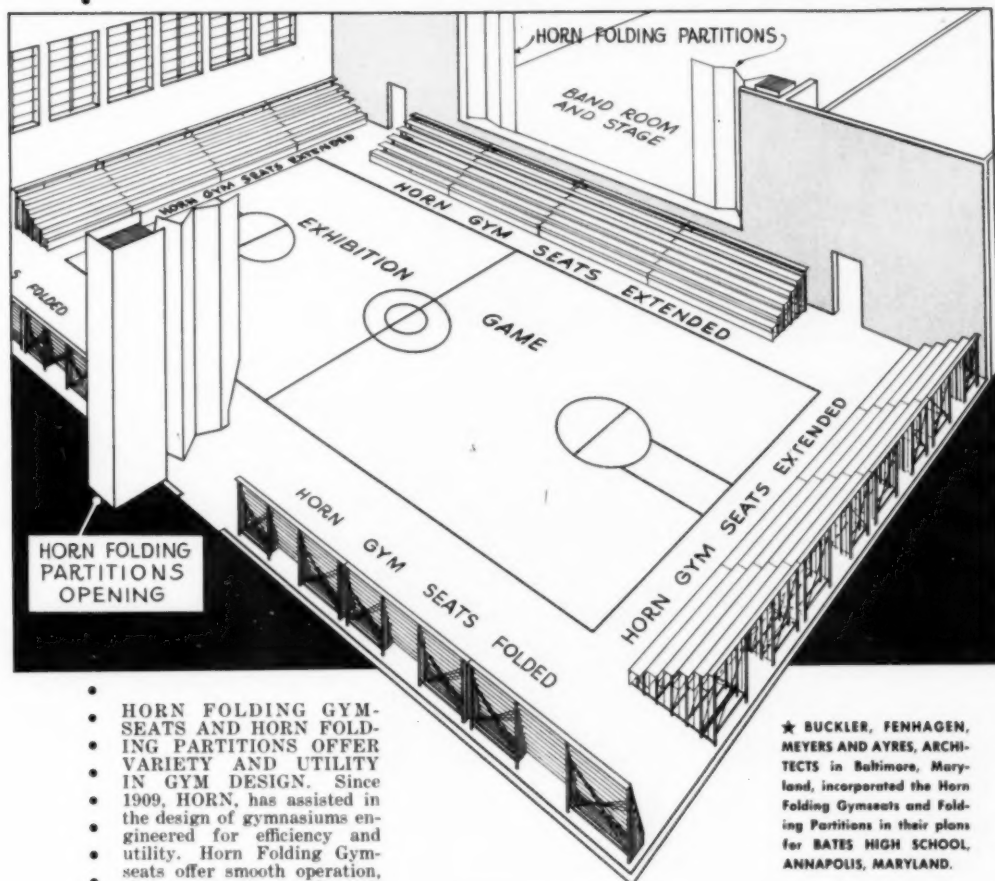
The major provisions of H.R. 5904 as reported by the committee are:

Every youth, upon reaching the age of 18, would become eligible for U.M.T. The present qualifications as to mental and physical status relative to induction into the armed services would be followed. At the completion of his high school or academic year a qualified young man would be subject to call. If inducted into the U.M.T. corps, a youth would train for a period of six consecutive months.

In regard to deferment, the committee report stated that "for all practical purposes, the same statutory deferments will apply, although permissive deferments will be kept at a minimum. No new exemptions or deferments are contained in the proposed legislation." Upon completion of the six-month training period, U.M.T. trainees would be assigned for a period of 7½ years to "a national guard unit, an organized reserve unit, or some other part of the ready reserve."

In regard to recall to active service, the revised House bill states: "No person who completes six months of basic military training in the corps and thereafter is appointed in or transferred to a reserve component of

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## NEWS.....

the armed forces shall be ordered to active duty in the armed forces without his consent for a period in excess of 30 days of continuous duty, except in such manner and in such numbers as the Congress may hereafter determine." This differed from the original bill which empowered the President to order all reservists to active duty for 24 months. The committee report indicated that "the Congress will retain complete authority over young men who complete their

training in the National Security Training Corps."

The House committee rejected the Defense Department's plan to call for 60,000 volunteers who would be required to serve 18 months' active duty at the completion of their training. The committee recommended that the most practicable plan for starting U.M.T. would be to induct "young men between the ages of 18 and 19 without regard to their present or potential status," on a small scale of

from 50,000 to 70,000 young men during the first year.

In order to strengthen civilian control over the budget of the U.M.T. corps the House committee urged the authorization of the five-member National Security Training Commission to pass on and approve all budget estimates for the program prior to their submission to the President. In regard to the cost, it was estimated that "at the rate of 5000 inductions per month, assuming the program began on Nov. 1, 1952, and continued to June 30, 1953, approximately 44,000 men would be trained at a cost of \$1604 per man, in additional funds, since the trainor costs would be absorbed by the departments. Thus, the cost for fiscal 1953 for training these young men would amount to about \$44,000,000."

### Special House Committee Makes Recommendations in Report on G.I. Bill

WASHINGTON, D.C.—The long awaited report by the House select committee to investigate education, training and loan guaranty programs under the G.I. bill was submitted on February 9 by Rep. Olin E. Teague (D-Tex.), its chairman.

The recommendations made by the committee include the following:

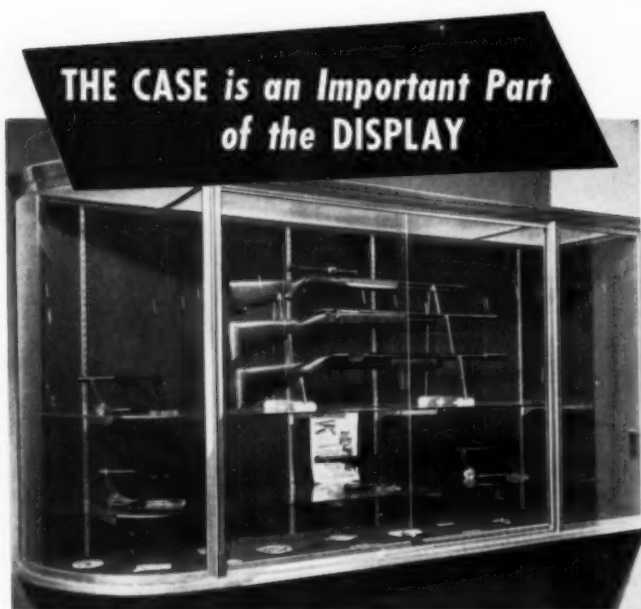
New legislation should be provided for veterans who served in Korea.

Entitlement to educational benefits, not to exceed 36 months, should be granted to veterans with 90 or more days' honorable service, based on one and one-half days of entitlement for each day of service during the period June 27, 1950, and such delimiting date to be established.

The total payment, including an allowance for tuition, books and supplies, should be paid directly to the veteran. From this payment the veteran should pay tuition and other charges not to exceed the charges paid by nonveterans.

Enrollment of veterans should be limited to courses offered by public schools or colleges, or to courses in private schools that have been in successful operation for at least one year and maintain an enrollment of at least 25 per cent nonveteran students.

It was recommended that the new law should contain specific prohibi-



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tions against V.A. and state approving agency personnel owning interest directly or indirectly in schools training veterans, or receiving gifts or gratuities from such schools. It was urged that the law should prohibit enrollment of a veteran in any school that is listed as subversive by the Attorney General of the United States. In addition, the administrator should be authorized to discontinue benefits to any veteran who commits criminal acts or acts of gross misconduct in the use of his entitlement.

One of the recommendations of the committee called for the establishment of standards for approval of nonaccredited courses in vocational and trade schools in order to preclude approval of schools with inadequate qualifications. Specific penalties were suggested for persons who wilfully make false claims in connection with the veterans program.

Several recommendations regarding the V.A. and its administrator were made by the committee. It urged decentralization of the V.A. regional offices to the greatest extent practicable and at the same time establishing an effective supervisory system to assure enforcement of the law. Vocational rehabilitation and education personnel of V.A. should be screened for the purpose of removing those persons without proper educational background or experience. It was recommended that veterans should be required to report taxable income rather than income from productive labor for the purposes of computing subsistence allowances.

Finally, the committee stated that "The authority of the Administrator of Veterans' Affairs should be clearly delineated in any future legislation providing education and training for veterans. Final authority of the administrator should be limited to decisions concerning the veterans entitlement. All other matters should be subject to review by the General Accounting Office and the courts."

In listing its general conclusions of the G.I. bill, the committee reported favorably on the college phase of the bill: "The veterans' training program at the college level, although experiencing some administrative difficulties, has been carried out successfully. Participating colleges and universities have rendered outstanding service in training veterans under many adverse

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conditions." The committee, in general, severely criticized the proprietary profit schools below the college level, noting that "criminal practices have been widespread among this class of schools." Sharp criticism also was directed at the institutional on-the-farm training; on-the-job apprentice training also was reported by the committee as "not satisfactory."

Commenting on the Veterans Administration, the committee enumer-

ated some of the problems facing the V.A. These included overcentralization in the central V.A. office in Washington, and confusion with regard to V.A. policies for: financial administration and provisions of the program; absences and leave; determination for participation in the program. The report found that "the finality of authority enjoyed by the Administrator of Veterans Affairs is contrary to the established policies of our gov-

ernment" and has resulted in "arbitrary construction and application of statutory enactments; has militated against the inherent rights of educational institutions to an independent review of their transactions and agreements, and has resulted in the payment of many millions of dollars for which neither the veteran nor the government received any real or tangible benefits and for which no clear legislative authority existed."

The committee found also that V.A. regulations, instructions and legal interpretations have been "arbitrary, ill-advised, ambiguous and tending to have a retroactive effect."

The Veterans Administration personnel policy received extensive criticism by the committee because of the manifest failure of the V.A. to correct existing malpractices. "Some of the key personnel were not educationally or administratively qualified to administer an education program." It was reported that quite a few cases were discovered of "maladministration, negligence, acceptance of gifts, or outright criminal activity on the part of vocational rehabilitation and education personnel." Finally, "an excessive number of V.A. employees accepted bribes, gifts, loans, gratuities, services and ownership in schools under contract with the Veterans Administration."

### Accuses Colleges of Overcharging Government

WASHINGTON, D.C.—Charles A. Eckert, legislative attorney for the General Accounting Office, charged that almost every type of college and training school had "raided the U.S. Treasury" under the educational provisions of the G.I. Bill of Rights. In testifying before the House Veterans Committee, Mr. Eckert stated that two-thirds of the schools investigated by the G.A.O. under the old G.I. program had "overcharged the government."

The House Veterans Committee is now considering some 25 bills that would give Korea war veterans much the same benefits now enjoyed by World War II veterans. They are not now eligible for such benefits.

According to Mr. Eckert, "It cannot be said that any particular type of institution on any particular level of education did not participate in this 'open season' on the treasury. Many colleges 'jumped' their charges as soon

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**NEWS. . . . .**

as the G.I. bill was passed." He testified in support of a bill that would forbid the government from making direct payments to schools and colleges. Instead, the veterans themselves would receive a subsistence payment to help meet costs of tuition and living expenses. This would amount to about \$110 for unmarried veterans.

## N.C.A.A. Approves of Rubber Covered Footballs for Collegiate Games

WHITE SULPHUR SPRINGS, W.VA. —When next season rolls around, collegiate football teams across the nation will have their choice of two footballs—the rubber covered and the leather—for use in their games, as the result of action taken by the National Collegiate Athletic Association's Football Rules Committee January 16.

Meeting here, the committee, with H. O. (Fritz) Crisler of Michigan acting as chairman, amended the N.C.A.A. rules so that, in the future, both the rubber covered football and its leather counterpart will be official for college games.

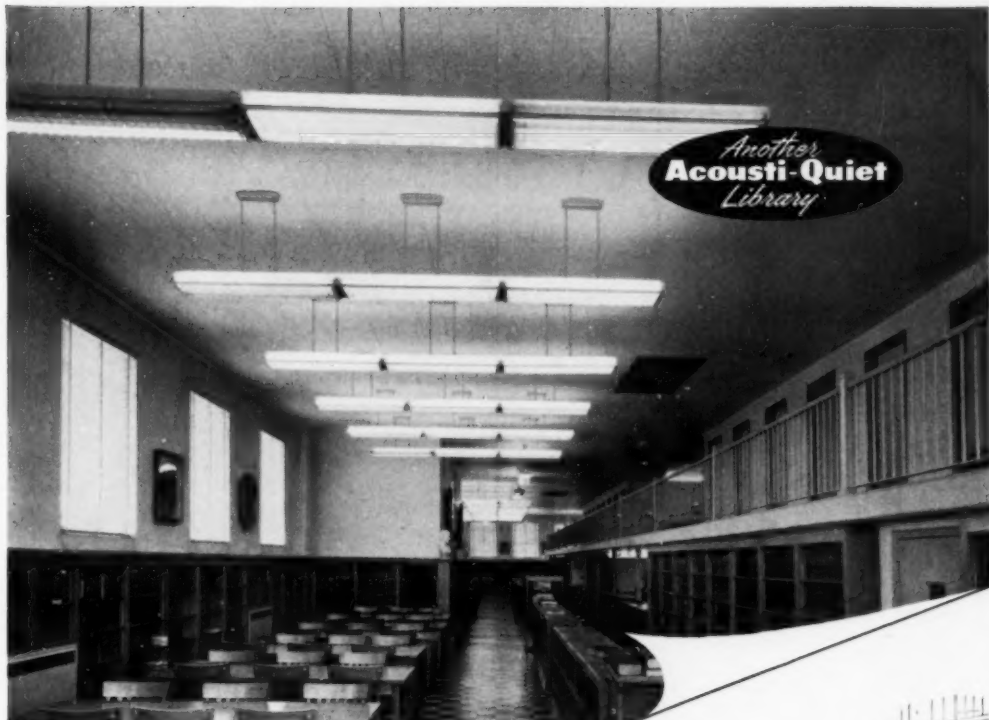
The old rule, found under Section 3, Article I, in the official rule book stated: "The ball shall be a four-panel, pebbled grained leather cover. . . ." The rule, as amended, follows: "A ball made of other materials may be used by mutual agreement of the contesting teams."

The new ball was used in more than a thousand college, junior college, and high school games across the country during the last two seasons. In addition to actual game use, the ball has been tested during practice sessions and scrimmages. A majority of the coaches expressed their approval of the ball and stated a willingness to use it in regular games, provided the N.C.A.A. would give its approval.

Questionnaires were sent to 640 coaches in an effort to determine their attitude toward rubber covered footballs. "Does the rubber covered football increase the efficiency of a passer or ball-handler?" the coaches were asked. The answers were 470 Yes and 160 No on a dry field, and 530 Yes and 80 No on a wet field.

According to available data the rubber covered football outlasts a leather covered ball four to six times, retains its original shape even when water-logged, will not gain weight





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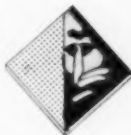
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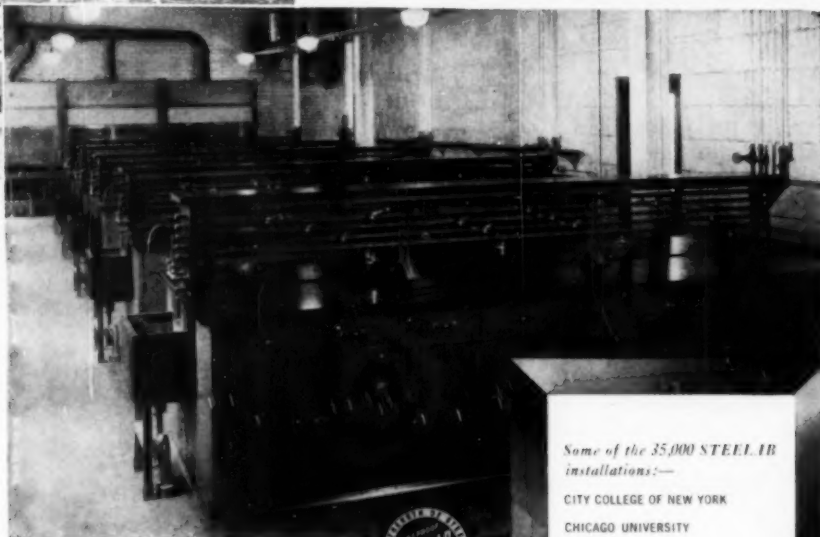


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MINNESOTA UNIVERSITY  
N. J. STATE COLLEGE AGRIC.  
NORTH CAROLINA UNIVERSITY  
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ROCKEFELLER INSTITUTE  
SAN CARLOS, GUATEMALA  
SYRACUSE UNIVERSITY  
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## NEWS. . . . .

under the most adverse weather conditions, and, with its pebbled-grained cover, is almost impossible to tell apart from the leather ball.

Earlier the National Federation of State High School Athletic Associations approved the rubber football specifically if a league, conference or opposing coaches agreed to its use.

### Seminar on Television Programming April 21-26

STATE COLLEGE, PA.—A five-day seminar on educational TV programming for approximately 60 college presidents and state and local school superintendents engaged in or planning television operations will be held at Pennsylvania State College, April 21-26.

The institute, a project of the American Council on Education, will be directed by Dr. Carroll V. Newsom, associate commissioner for higher education in the New York State Education Department. Plans call for actual demonstration of television equipment and the production of educational programs, as well as for discussions led by consultants and staff members. An expert in television programming and consultants in technical, financial, and other aspects of television operations will round out the staff headed by Dr. Newsom.

Fundamentally, it was pointed out by Dr. Arthur S. Adams, president of the American Council on Education, the institute should help to demonstrate the potential of television as a device which educational institutions may use with great effect in furthering their basic educational objectives.

### Geriatrics Project for Vassar Alumnae

COLD SPRING-ON-HUDSON, N.Y.—Mrs. William S. Ladd, an alumna of the class of 1908 of Vassar College, has established the Walt Foundation to administer an experiment in geriatrics, to be known as the Cold Spring Project.

The project will involve the utilization of Sunk Mine Farm, an estate owned by Mrs. Ladd, for Vassar College alumnae more than 60 years of age, with or without husbands, as a project in adult education. The project's student body, limited to 30 graduates for a year at a time, will be

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## NEWS

eligible to attend classes that may interest them at Vassar, which is 25 miles from the farm. The fee for those joining the project is \$2000 to \$3000 a year, according to ability to pay.

### Students Must Tend Rooms, Supply Linens

WELLESLEY, MASS.—The all-inclusive fee for students at Wellesley College will be increased from \$1600 to \$1850, while at the same time the

students will be required to take care of their own rooms. The college also will discontinue supplying and laundering linens free of charge.

A laundry rental supply service will be available for those students who do not wish to furnish and care for their own linen and towels, and every effort will be made by the scholarship committee to give consideration to all applications for scholarships, work scholarships, and loans, according to President Margaret Clapp.

### 83 Foreign Countries Send 1595 Students to Columbia University

NEW YORK.—An all-time high in foreign student enrollment was recently announced by Columbia University as the institution made public a report showing that 1595 nationals from 83 countries were taking courses there during the current 1951-52 academic year. This foreign student registration is the highest of any university in the United States this year.

Of the 60 countries in the United Nations, 56 are represented at the university. In addition, scholars from 17 countries that are not U.N. members, from nine colonial possessions of U.N. members, and from three American territories and dependencies are enrolled.

The largest group of foreign students comes from Asia, with 675 students from 20 countries currently studying at the university. Europe is next with 416 students from 30 countries, followed by the Western Hemisphere, with 395 students from 24 countries. Africa has 59 students from seven countries and 14 students come from Australia and New Zealand. Thirty-six students, mostly from Europe, are either stateless or have taken out first citizenship papers.

China continues to supply the largest number of foreign students, 229 being citizens of that country. Canada is next, with 139 students, followed by India (including Pakistan and Ceylon), with 95 students; Israel, 84 students; Great Britain, 56 students; Japan 55 students, and the Philippine Islands, 53 students. Of the total of 1595 foreign students, 391 are citizens of the British Commonwealth, 264 come from countries in the Near and Middle East, and 293 originally came from countries now under Communist domination. Forty-two students come from Puerto Rico, Hawaii and the Virgin Islands.

### Colleges Offered FM Radio Time

CHICAGO.—A Chicago FM radio station, WBIK, has advised universities in the Chicago area that it is willing to turn over its entire radio time from Monday through Friday to be used by the institutions as they desire. Each university would be allocated a specific day during the week

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Is it necessary for a bursar to spend administrative time on food service operation?

This question is posed frequently by bursars who find themselves being drawn into detailed discussions on the financial operation of the school's dining hall or cafeteria. They readily admit that successful financial operation is very much their concern. But, at the same time, they point out that they are NOT food specialists and do not feel that it is up to them to solve the problems rising from today's high costs.

Actually, the question of getting relief from food problems is simply answered. Forward-minded bursars turn to an outside firm that has spe-

cialized in food service management since 1930: Crotty Brothers, Inc.

### HANDLES ALL DETAILS

This firm, headquartered in Boston, has 10 regional supervisors, each of whom works directly with the Crotty dining hall operators in his

region, thus assuring constant supervision of the service. The firm takes complete responsibility for the school dining hall or cafeteria operation, subject, of course, to the control of the school's administrative staff. Its expertly trained staff secures and supervises the necessary personnel, handles everything from wages to food procurement and storage. Working closely with the school, Crotty Brothers caters to special school requirements, plans menus that meet student preferences, helps prevent monotony by also using dishes that have proved popular elsewhere.

### COMPLETE RESOURCES

Bursars find the Crotty resources a tremendous factor in efficient operation . . . not only in terms of buying experience but in every phase of food service management.

Crotty Brothers' experience in group feeding, accumulated over a long period of time, helps prevent mistakes in judging tastes or estimating requirements, does away with wasteful, spur-of-the-moment buying. Uniformly better food at low cost is the result, winning the approval of both the student body and the administration. Bursars agree that Crotty fulfills its aim to: keep *everybody* happy.

If you have not already received detailed information on Crotty Brothers' service, write now for further data. We will be glad to show you how you, too, can enjoy relief from food problems. Crotty Brothers, Inc., 137 Newbury St., Boston 16, Massachusetts. Operating in 16 States and 45 Cities.

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## NEWS . . . . .

and would be responsible for programming on that day.

It was suggested by John H. Mitchell, general manager of television station WBKB which operates WBIK, that the colleges present student educational programs from 3 to 6 p.m. and adult education programs from 6 to 9 p.m.

According to the proposal, WBIK will bear all the broadcasting expenses. The colleges or universities will pay the cost of tape recording classroom sessions, or if a "live" broadcast of activity is desired, they will pay the cost of a telephone line and one engineer.

### Spring Football Practice Banned by Ivy League

NEW YORK.—Presidents of eight Ivy League colleges in a recently released joint statement announced that their institutions would deemphasize football by banning spring football practice and postseason games. The action by the presidents involved the following institutions: Brown, Columbia, Cornell, Dartmouth, Harvard, Pennsylvania, Princeton and Yale.

Under the new program coaches and players in the Ivy League will be barred from participating in football games that settle sectional or other championships. So-called football clinics for high school coaches under the direction of college coaches would be discontinued under the ban.

The new program follows the action recently taken by the American Council on Education in the interests of keeping college athletics in the proper academic perspective.

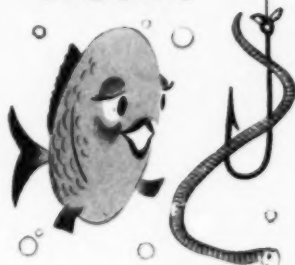
### Accepts Funds From Race Biased Donor

ATLANTA, GA.—Piedmont College trustees recently voted that the institution should continue to accept grants from the Texas Education Association. The association is financed by George Armstrong, Texas cattle and oil millionaire who has established himself as being anti-Jewish and anti-Negro according to his published writings.

One trustee, Josephine Wilkins, a former state president of the League of Women Voters, resigned from the board over "a vital issue of principle." The board president, A. T. Cline of Toccoa, Ga., said that no strings were attached to the monthly grant of \$500

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## NEWS

from the association and that the board could see no reason to refuse it. Three members of the faculty or administrative staff have resigned since the college first accepted the grant a year ago.

### National Educational TV Network Favored

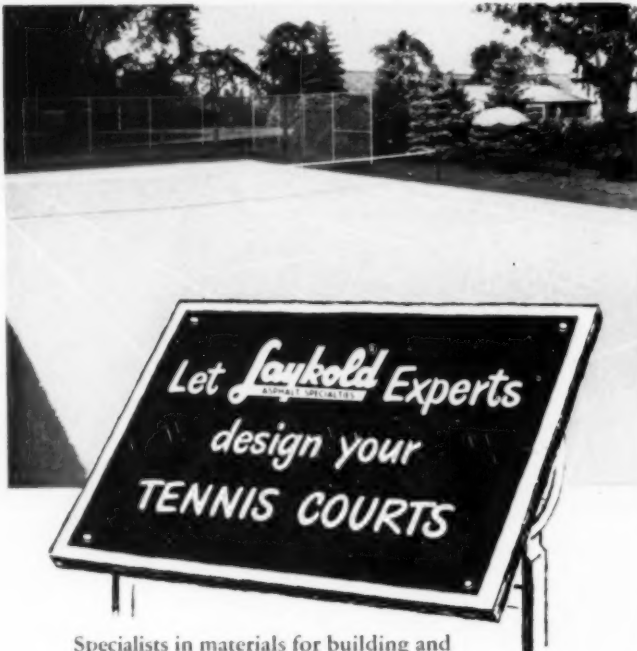
ST. LOUIS.—Under the leadership of Mayor Darst of this city, a conference was held in January to consider the establishment and operation of a

national noncommercial educational television network. More than 100 delegates from 29 cities and 19 states were in attendance at the meeting, including representatives from the Joint Committee on Educational Television and the American Council on Education.

Delegates were unanimous in support of the idea for a national educational TV network. Discussion at the conference revolved around the financial implications of an educational

network, the programming possibilities, and the technical and engineering problems involved. Those in attendance agreed that a national TV network should produce programs in its own right as well as serve as a distribution center.

The conference commenced the Federal Communications Commission for its tentative reservation of television channels for exclusively noncommercial use as established last March 22 and urged that in the public interest these reservations be made final.



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### Short Course for Executive Group Limited to 50

NEW YORK.—Columbia University announced the establishment of an executive program in business administration that will consist of a special six-week course for executives being prepared for higher administrative positions.

The new program will be held from June 16 through July 26 at Arden House on the Harriman Campus of Columbia University, 50 miles north of New York City. The program will be limited to 50 men.

It is believed that this is the first time in New York City that an advanced executive group has been able to meet, work, study and live together under one roof, along with the men giving them their specialized knowledge and experience. The program is so organized that instruction by authorities from university faculties is followed in related sequence by discussion and talks by outside experts drawn mainly from business.

### Refuse to Police Sports Activities

NEW YORK.—The difficulty of enforcing the program suggested by the special committee of college presidents appointed by the American Council on Education in regard to policing sports activity became apparent by the refusal of two accrediting organizations to assume the enforcement responsibility. The Middle Atlantic and the New England associations stated on February 27 that it "was not part of the accrediting job."

E. Kenneth Smiley, vice president of Lehigh University and chairman of



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## NEWS.

the Middle Atlantic States Association, said, "We do not think it practicable for the commission, which is a creature of the colleges in the area, to constitute itself an enforcement agency for any other group. . . . It has been indicated that we could not accept the policing function."

Niles Y. Wessell, dean of Tufts College, and Roger Hamilton, dean of Northeastern University, expressed the same sentiments in behalf of the New England group.

### Big Change in Campus and Fraternity Life at Williams College

WILLIAMSTOWN, MASS.—President James Phinney Baxter III of Williams College announces a million dollar plan that will considerably change living conditions on the campus and will affect fraternity life. The new plan, described as the most drastic social change to be made at the col-

lege since its founding in 1793, would provide:

1. Students will not be rushed or pledged during their freshman year by any of the 15 fraternities on campus.

2. Freshmen will have meals together in new college dining facilities "to promote the solidarity and spirit of the freshman class and to improve social conditions on the campus in the interests of all."

3. A new Student Union building will be erected, centrally located and open to all undergraduates, with dining rooms, lounges, game rooms and library facilities. A committee of the trustees visited the campus on February 2 to study the site and design of the building that is to be constructed "with all convenient speed."

Previously Williams fraternities rushed and pledged freshmen soon after the opening of the school year. About 80 per cent of the student body of 1044 men were members of the 15 fraternities, the 20 per cent of non-fraternity men being members of the Garfield Club, the only nonfraternity group. The nonfraternity men were dependent on the Garfield Club for meals. Last December 5 members of the Garfield Club voted to dissolve this spring unless the college enabled every student to join a fraternity.

Dr. Baxter disclosed that the college trustees had declined to force the Greek-letter houses to admit all Williams students to membership. A vote of the student body on January 15 rejected by 509 to 390 a proposal to admit all students to Greek-letter fraternities.

For the last 18 months a 53 man committee of Williams students, alumni, faculty members, and trustees has been studying the problem and recently recommended that the college fraternity system be liberalized to reduce "unhappiness and disappointment" among students. The new plan, Dr. Baxter stated, is based in large part on that committee's report.



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### Columbia University Increases Tuition Fees

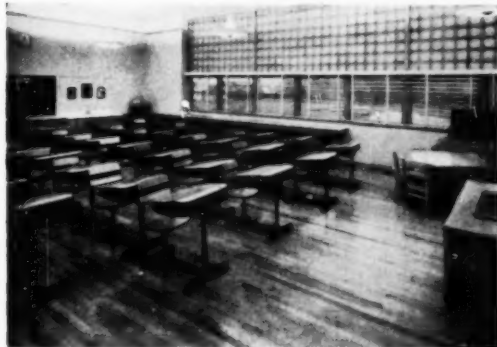
NEW YORK.—Columbia University will increase its tuition fees to \$25 per point and \$375 per session with the beginning of the 1952-53 academic year in September, according to a recent announcement by Dr. Grayson



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## NEWS

Kirk, vice president and acting head of the university.

Some of the increased revenue resulting from the tuition increase will be used to raise the minimum salary for full-time instructors to \$3600 a year, Dr. Kirk disclosed. "Faculty salary adjustments, needed to meet rising living costs, have been inadequate, and deferred maintenance of our physical plant has assumed undesirable proportions," he stated. "It is also hoped," he said, "that the in-

creased revenue will make possible more liberal support of our student scholarship and fellowship program."

It is also planned that certain other needed salary adjustments, in addition to the increased minimum for instructors, will be made.

Columbia's academic year consists of two sessions, or semesters, thus making the new annual tuition for a full program of study \$750, with a few exceptions. The present tuition is \$20 per point and \$300 per session.

## NAMES IN THE NEWS

**Clair Bee**, director of athletics for 20 years at Long Island University, New York, has been named to the newly created post of controller, according to a recent announcement by **William M. Hudson**, acting president of the university. Mr. Bee will be succeeded as director of athletics by **William T. Lai**, his assistant since 1947.



Clair Bee

**Louis William Norris**, dean of DePauw University, has been named to the presidency of MacMurray College, Jacksonville, Ill. He will succeed **Dr. Clarence P. McClelland**, who is retiring after 25 years as president of the college.

**John A. Hayes**, formerly chief accountant of the University of Tulsa, Tulsa, Okla., has been named to the office of business manager. He succeeds **Beryl G. Hancock**, who retired from the position on January 1.

**C. Richard Kjellstrom**, former manager of the Principia College store at Elsah, Ill., has been named purchasing agent of the college. He succeeds **Claude Hough**, who resigned to operate a camp at Harrison, Me.

**Dr. Charles B. Nutting**, dean of the University of Pittsburgh's school of law, has been named a vice chancellor of the university, according to a recent announcement by **R. H. Fitzgerald**, chancellor. This is in line with the recent action of the university's board of trustees in establishing the position of two vice chancellors at the university. At a later date another vice chancellor will be appointed in the area of the university's medical and research program.

**James W. Armsey**, former director of public relations at Illinois Institute of Technology, has been appointed assistant to **Henry T. Heald**, chancellor of New York University. Dr. Heald formerly was president of Illinois Institute of Technology. Mr. Armsey's new appointment became effective February 1.

**Dr. Henry J. Arnold**, president of Hartwick College, Albany, N.Y., retired February 12 after 14 years as executive head of the institution. He will become provost of the college on June 30, the date his retirement as

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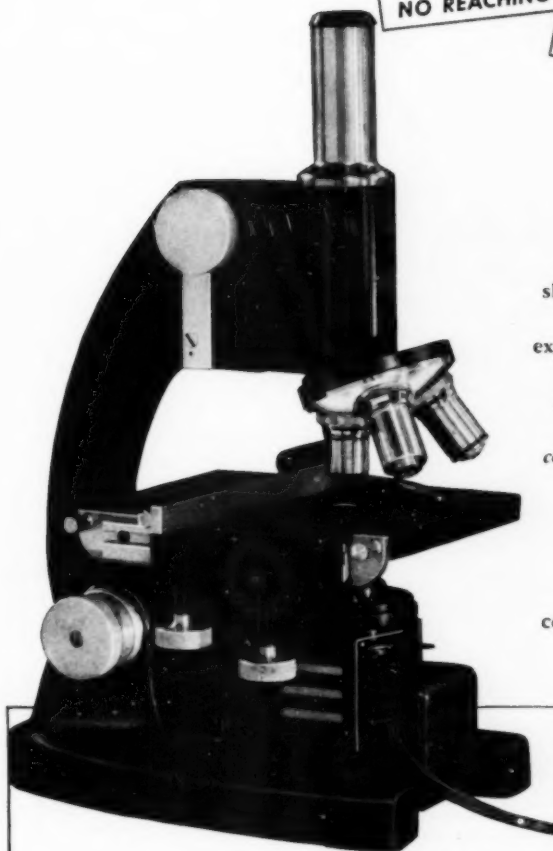
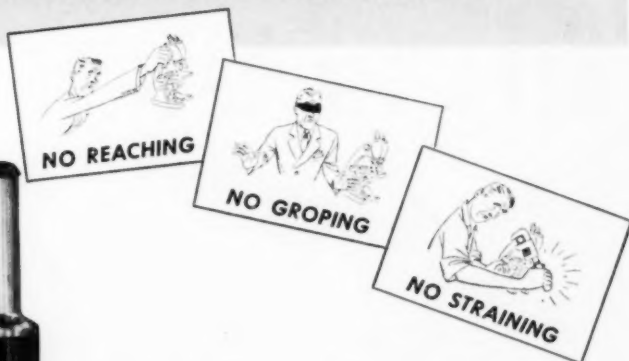


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## NEWS

president becomes effective. No successor has been named.



O. S. William

**Henry G. Bennett.** Dr. Bennett and his wife died in the crash of an

**Dr. Oliver S. William,** former executive vice president of Oklahoma A. & M. College, has been named to the presidency to succeed the late

Egyptian airliner near Teheran, Iran, on December 22, while on a trip in line with his duties as assistant secretary of state and director of the Point 4 program.

**Charles J. Duke Jr.,** bursar of the College of William and Mary, Williamsburg, Va., for 18 years, has resigned, the resignation to take effect June 30.

**Brig. Gen. Frank L. Howley,** former military governor and United States commandant in Berlin, has been ap-

pointed vice chancellor for university development at New York University, according to a recent announcement by **Henry T. Heald,** chancellor.

**Edward Tuck Hall,** assistant headmaster at St. Mark's School at Southborough, Mass., has been named to succeed **James I. Wendell** as headmaster of



Edward T. Hall

the Hill School, Pottstown, Pa. Dr. Wendell is retiring to the post of headmaster emeritus after 39 years of service. Mr. Hall's appointment becomes effective August 1.

**Dr. Paul W. Dieckman,** former vice president of Wagner College, Staten Island, N.Y., has been elected as the ninth president of Midland College, Fremont, Neb. He succeeds **Dr. William P. Hieronymus,** whose resignation is effective on June 1.

**Frank S. Hackett,** founder and former headmaster of the Riverdale Country School in the Bronx, died on February 6. He was 74 years old.

**Dr. Frederic R. Hamilton,** president of Bradley University, Peoria, Ill., from 1925 to 1946, died February 19 aboard the steamship *African Enterprise*, which was returning to New York from South Africa.

**George H. Black,** former president of the University of Newark and later provost of Rutgers University, died February 24 after a long illness at his home in Palo Alto, Calif. He was 78.

**Dr. Tristram W. Metcalfe,** president of Long Island University since 1942, died February 24 after a long illness. He was 71 years of age.

**Edward C. Barrett,** secretary of the board of trustees and controller of California Institute of Technology, Pasadena, died of a heart ailment on February 23. He had been stricken in his office on February 12.

**Eleanor I. Burns,** former vice president of the American College for Girls at Istanbul, Turkey, died February 1 at 68 years of age.

**Harry Henderson Clark,** former president of Judson College, Marion, Ala., died at 71 years of age on February 5.

**Dr. George H. Chase,** dean emeritus of Harvard University and acting president of the university while **James B. Conant** was on federal government assignment during World War II, died February 3 at 77 years of age.

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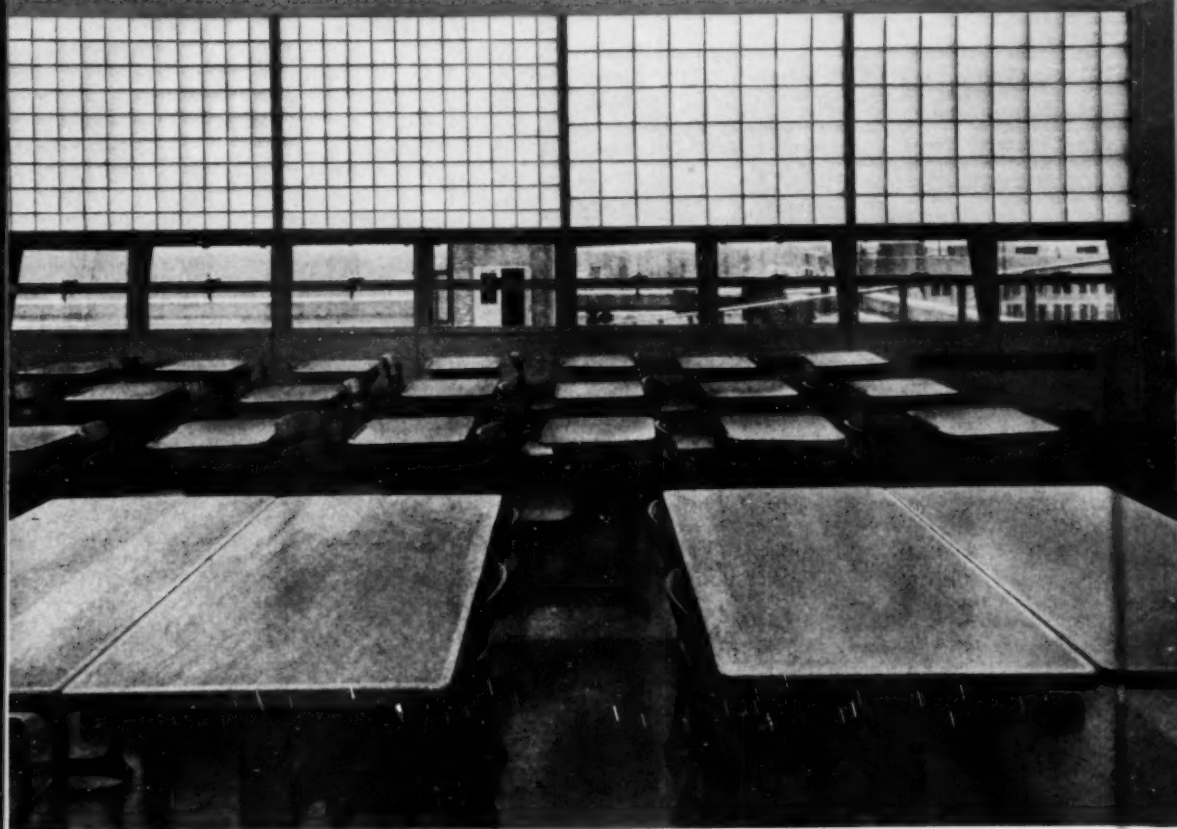


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## DIRECTORY OF ASSOCIATIONS

### National Federation of College and University Business Officer Associations

President: Jamie R. Anthony, Georgia Institute of Technology; vice president: James M. Miller, University of California, Berkeley; secretary-treasurer: Irwin K. French, Middlebury College.

### Association of College and University Business Officers

#### Central Association

President: Laurence R. Lunden, University of Minnesota; secretary-treasurer: C. C. De Long, University of Illinois.

Convention: April 20-22, 1952, Ohio State University, Columbus.

#### Eastern Association

President: Charles H. Wheeler III, University of Richmond; secretary-treasurer: Irwin K. French, Middlebury College.

#### Southern Association

President: Gladys Barger, Lenoir-Rhyne College; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Convention: April 3-5, Clemson College, Clemson, S.C.

### Association of Physical Plant Administrators of Universities and Colleges

President: Walter W. Kraft, University of Oklahoma; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

Convention: May 1952, University of Michigan.

### American College Public Relations Association

President: Henry Johnson, Harvard University Athletic Association; secretary-treasurer: Ed Vonderhaar, Xavier University, Cincinnati.

Convention: April 16-18, Carter Hotel, Cleveland.

### Western Association

President: Nelson Wahlstrom, University of Washington; secretary-treasurer: James M. Miller, University of California, Berkeley.

Convention: May 11-13, Mapes Hotel, Reno, Nev.

### American Association

President: Glenwood E. Jones, Shaw University; secretary: L. H. Foster Jr., Tuskegee Institute.

Convention: May 4-6, Kentucky State College, Frankfort, Ky.

### Association of College Unions

President: Frank Kuenzel, University of Michigan; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin. Convention: April 23-26, Oklahoma A. & M. College, Stillwater, Okla.

### College and University Personnel Association

President: B. W. Ames, University of Florida; secretary-treasurer: Fred Doderer, State University of Iowa.

Convention: July 1952, Minneapolis.

### National Association of College Stores

President: George Racine, Northwestern University; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

Convention: April 22-25, Miami, Fla.

### National Association of Educational Buyers

President: Jamie R. Anthony, Georgia Institute of Technology; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

Convention: May 7-9, Washington, D.C.

### National Association of College and University Housing Officers

President: S. Earl Thompson, University of Illinois; vice president: Kenneth D. Lawson, Michigan State College; secretary: Ruth Donnelly, University of California.

Convention: August 4-6, University of California, Berkeley.

## CLASSIFIED ADVERTISING

### POSITIONS WANTED

**Business Manager**—Presently employed in eastern college; master's degree in Business Administration; specialist in accounting, investments, and fund raising; fifteen years' experience in educational institutions; wide experience as a speaker. Write Box CW 80, COLLEGE AND UNIVERSITY BUSINESS.

**Business Manager**—Position desired in larger institution; twenty-eight years' experience in teachers college and public schools; have taught accounting, etc.; available for interview at Columbus convention. Write Box CW 82, COLLEGE AND UNIVERSITY BUSINESS.

**Business Manager, Treasurer, or Controller**—Presently treasurer of medium-sized mid-western university; nearly twenty years' experience in industrial and college accounting, and business administration; available before end of school year. Write Box CW 81, COLLEGE AND UNIVERSITY BUSINESS.

**College Business Officer**—B. A. Degree, also graduate of accredited accounting school; desires position of administrative responsibility; accounting and broad supervisory experience; excellent references; employed but seeking position with larger scope. Write Box CW 83, COLLEGE AND UNIVERSITY BUSINESS.

**Director Food Service**—Mature woman with excellent experience and references; prefers to work in midwest in either high school or college; now employed. Write Box CW 84, COLLEGE AND UNIVERSITY BUSINESS.

**Librarian-Head-Man**—Graduate library school and M.A. Degree, some Ph.D. work; experienced head of active college library, now employed; knowledge of building planning, audiovisual services, library instruction; desires position as head librarian outstanding liberal arts college or university; \$6000. Write Box CW 72, COLLEGE AND UNIVERSITY BUSINESS.

### POSITIONS OPEN

**Food Service Director**—Big ten university desires experienced person as director of food service in student union; position open now; write fully concerning qualifications and references; Supervisory positions also open. Write Box CO 69, COLLEGE AND UNIVERSITY BUSINESS.

**Manager of Dining Halls and Student Union**—Small Massachusetts college; operation of new freshmen commons student union building; to participate planning construction, position available immediately; experience required. Write Box CO 68, COLLEGE AND UNIVERSITY BUSINESS.

**Plant Engineer**—Permanent position; midwest small college; to supervise high pressure central heating plant and do mechanical, electrical, and plumbing maintenance; approximately 15 buildings; send full information regarding age, education, experience, salary expected in first letter. Write Box CO 67, COLLEGE AND UNIVERSITY BUSINESS.

**Superintendent of Buildings and Grounds**—Large eastern university is seeking man with adequate experience to be in charge of maintenance and upkeep of 178-acre campus and 29 buildings; professional engineer preferred, but not absolutely essential; write fully concerning experience, references, and salary needed; position open in June, 1952. Write Box CO 66, COLLEGE AND UNIVERSITY BUSINESS.

**Treasurer-Business Manager**—Private liberal arts college located west of the Alleghenies; needs man with college experience able to direct business offices of institution; \$6000; opportunity for advancement. Write Box CO 70, COLLEGE AND UNIVERSITY BUSINESS.

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### IMPORTANT PLUS VALUES

Greater vacuum for faster, cleaner cleaning.

Special swivel elbow joint and light, ultra flexible hose for easier handling.

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Simple cam release for quick removal of dirt can. Wet or dry cleaning with one machine.

Sturdy long life construction that cuts maintenance to a minimum.

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Spencer Commercial Portable Vacuum Cleaners pick up more dirt and do it faster. They are compact, beautifully balanced and easy to handle. Their powerful vacuum and special bare floor tools make them ideal for bare floor cleaning. The dirt comes off the floor instead of being pushed from place to place, and on waxed floors, waxing does not have to be done so often. Because they do a superior cleaning job, you not only save time, but rugs, carpets, upholstery and draperies last longer. And one more point, these powerful Spencers are built to stand the day in and day out stress of commercial cleaning, built to last a long time with minimum maintenance.

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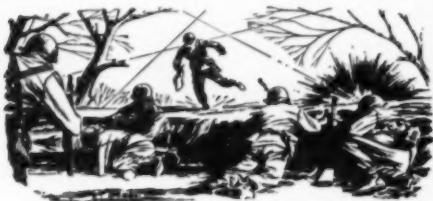
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## Captain Raymond Harvey Medal of Honor



**T**HE 17TH INFANTRY REGIMENT was attacking Hill 1232 near Taemi-Doug, Korea. Able and Baker Companies became split by a Red-held ridge. Charlie Company, Captain Harvey commanding, was moving up to fill the gap when the dug-in Red guns pinned it down. Calling for covering fire, Captain Harvey advanced



alone through a hail of enemy bullets. One by one, he personally wiped out four emplacements of machine guns and automatic weapons. Then he caught a bullet through the lung. But he stayed on, refusing evacuation, until sure the objective had been won.

"In Korea," says Captain Harvey, "we stopped aggression by *united* strength. You were helping—every time you bought a Defense Bond. Because your Defense Bonds were doing more than just helping keep you, and your family, and your country financially stable. They were backing *us* up in the field with *American* production power, the surest support any fighting man can have!

"I hope you'll go on buying Bonds—many, many of them. For your Bonds—and our bayonets—are making America strong. And in today's cold-warring world, *peace is only for the strong.*"

\* \* \*

Remember that when you're buying bonds for national defense, you're also building a personal reserve of cash savings. Remember, too, that if you don't save *regularly*, you generally don't save at all. Money you take home usually is money spent. So sign up today in the Payroll Savings Plan where you work, or the Bond-A-Month Plan where you bank. For your country's security, and your own, buy U.S. Defense Bonds now!

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THE COLORADO FUEL & IRON CORPORATION

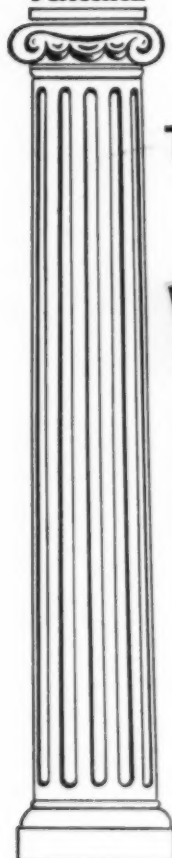
BRANCHES IN ALL KEY CITIES



# Monroe

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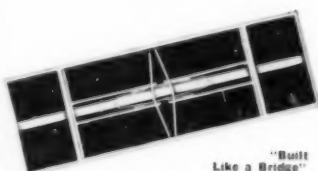
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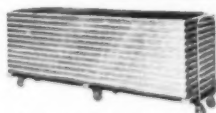


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No Knee  
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Stack of 12 tables, 29" high on  
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Monroe Folding Tables are designed to carry a ton and to last a lifetime—to offer multi-usefulness, with built-in strength to do your job.



Nickel plated steel  
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Standard top material for MONROE Folding Tables is Tempered Masonite. Monroe Tables are also available with tops of FORMICA, ORNACEL, NEO-TONE and Plywood.



Rounded non-splinter  
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Positive  
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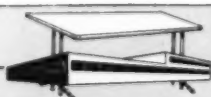


Exclusive  
Pedestal  
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ADJUSTABLE MONROE FOLDING TABLES—for any height from 20" to 30". Also MONROE Folding Benches.



THE *Monroe*



*Company*

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COLFAX, IOWA



# WHAT'S NEW

March 1952

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 92. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

## Sensimatic Accounting Machine



The new multiple register Series 300 Sensimatic accounting machine features automatic control of its operating through a "sensing unit" which is attached to the carriage. As the carriage moves, this control unit transmits a series of rapid fire instruction to the 7000-part working mechanism, indicating the mechanical action to take place. The unit also automatically controls all operations of the carriage. Each of the control units has four complete "brains" to handle four different accounting jobs according to the user's specifications. The operator can switch from one to another by flicking a knob, or the entire unit may be removed and another snapped into position with an entirely new set of Series 300 Sensimatic brains, ready for four totally different accounting jobs.

The new machine will handle all accounting problems, even the most complex. A new principle of construction employed in all Sensimatic machines allows easy maintenance, in spite of the complicated operations which the machines handle. The machines are made up of nine individual sections which may be quickly removed when necessary for repairs and adjustments. **Burroughs Adding Machine Co., Dept. CUB, Detroit 32, Mich. (Key No. 470)**

## Rite Green Chalkboard

Exhaustive laboratory tests for readability, reflectivity, ease of writing, ease of erasing and durability were made on the new Rite Green Chalkboard by Tylac before it was released recently. The Tylac finish is a combination of hard, double coated synthetic resin and silicate, highly

abrasive resistant, on a 1/4 inch smooth, grainless, long fiber, all-wood tempered base, waterproofed to resist moisture permanently and treated so that it does not warp, bulge, split, splinter, crack or peel. The hard finish makes the board dentproof so that chalk pressure does not mar it. Color retention is high so that no color change takes place from the use of strong soaps in cleaning the surface.

Rite Green Chalkboard by Tylac is built to become an integral, permanent part of the school and college building. It is easily installed with Tylac M-100 cement over a plaster wall base, in any length, by butting the matched joints. Rite Green Chalkboard comes in only one color, a light green which has been tested and found to be the most nearly correct color for eliminating eye strain. The new board is manufactured in three heights: 3 feet, 3 1/2 feet and 4 feet. It comes in four lengths: 4, 5, 6, and 8 feet. It is economical in price and built for long service. **Tylac Company, Dept. CUB, Monticello, Ill. (Key No. 471)**

## Model 202 Recording Projector

Sound to fit the special needs of a class or other group can be recorded on a motion picture film at any time and changed at will with the new Model 202 Recording Projector. The ability to alter or change the sound track of a film completely offers many advantages in teaching and lecturing. This new 16 mm. motion picture projector records and plays back sound by means of a strip of magnetic material on the edge of the film. Bell and Howell have also developed a process called Soundstripe to coat film permanently for magnetic sound.

With the Model 202 Recording Projector the instructor can add his own commentary to the film by speaking into a microphone as the film is projected on the screen. The process is as simple as using a magnetic tape recorder, but with this machine the magnetic stripe is on the film itself so that words and pictures are synchronized to suit the speaker's purposes. No experience is necessary to record and any part or all of the commentary can be erased and remade. Accidental erasures are prevented since the machine automatically switches from record to neutral position when stopped. The machine continues in neutral position until the record button is again

pushed. A recorded track can be used over and over again and will last as long as the film itself, or until it is erased.

The new machine has reverse for running the film backward to correct or listen back to any portion while projecting. It has silent film speed of 16 frames per second and sound speed of 24 frames. The record and erase heads are less than three frames apart, in the same unit with the optical play and magnetic play heads. They are all molded together so that the sound and picture are taken off at almost the same point, thus making it possible to synchronize sound easily. Receptacles for phonographs and microphone plugs are separate so that the operator can record from a turntable and with his voice simultaneously to provide a musical background for the speaking voice if desired.

With the new equipment, a film taken by the institution on home movie equipment can have the Soundstripe magnetic sound track affixed at low cost and sound can then be added as described above, and changed for any purpose for which the film may be used. This permits the making of sound films for educational or other uses at very low cost.

The new machine is a portable unit with projector, amplifier speaker and microphone contained in a single case. It requires no special equipment and very little experience to operate. It does not require a soundproofed room for making recordings and as soon as the recording is finished, it is ready for im-



mediate playback. The unit may also be used as a public address system. **Bell & Howell Co., Dept. CUB, 7100 McCormick Rd., Chicago 45. (Key No. 472)**

(Continued on page 82)

## WHAT'S NEW . . .

### Sealed Handle Flush Valves

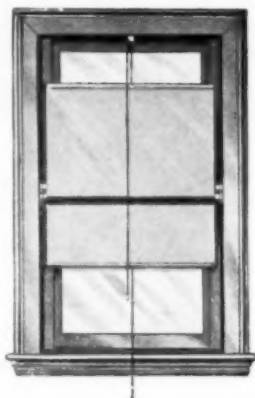
The new Rubbertflex Sealed handle unit for Delany flush valves employs a new principle of design. The new unit consists of a natural rubber flexer, which performs the function of both spring and packing and automatically seals the handle at all times, regardless of position of the stem. The handle stem is free floating, thus eliminating friction wear. The completely sealed unit is simple in design and function and the flexer, after long service, can be quickly replaced without the use of tools. **Coyne & Delany Co., Dept. CUB, 536 Kent Ave., Brooklyn 5, N. Y. (Key No. 473)**

### Steeleco Shadescope

The Steeleco Shadescope is a new style window shade providing a double shade with only one roller. It telescopes toward the center of the window, permitting light and ventilation at both top and bottom with one pull of the shade cord. The new shade also eliminates the necessity for a light screen between rollers when darkening the room. Costing only a little more than a top-of-window single roller shade, the new Shadescope has all of the advantages of a double roller center shade.

The Shadescope is easy to install and

can be demounted without the use of tools. It is a patented Steeleco product and is economical in first cost, in installa-



tion and in maintenance. **The Oliver C. Steele Mfg. Co., Dept. CUB, Spiceland, Ind. (Key No. 474)**

### Rubberized Paint

A new rubberized paint has been developed and released under the name Texolite Duraval. It makes available an almost unlimited range of colors through

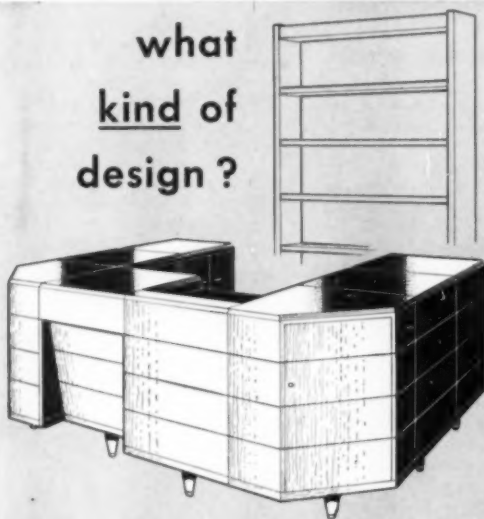
(Continued on page 84)

simple intermixes with standard units of measure. The new paint contains a controlled formula, combining a synthetic latex ingredient with special resin chemicals to produce a smooth finish of great durability. The paint provides superior workability and adhesion and requires no primers or sealers over most surfaces. It dries quickly, provides excellent coverage and is easy to clean. It is available in 12 standard and five custom ready-mixed colors. **United States Gypsum Co., Dept. CUB, 300 W. Adams St., Chicago 6. (Key No. 475)**

### Washable Wall Finish

A new wall finish, which is ready to apply and which the manufacturer guarantees to be washable, is being introduced under the name Quali-Kote. Formulated from newly-developed chemicals, Quali-Kote is designed for easy and constant maintenance, since in addition to its washability it is resistant to dirt, ink, crayons and other substances. The finish is easily and quickly applied over any type of interior wall surface without the use of a primer or sealer and dries in approximately one hour. Quali-Kote is available in sixteen colors and white. **The Sherwin-Williams Co., Dept. CUB, 101 Prospect Ave. N. W., Cleveland 1, Ohio. (Key No. 476)**

what  
kind of  
design?



JOHN E. SJÖSTRÖM COMPANY

1727 N. Tenth Street, Philadelphia 22, Pa.

### Functional design.

Sjöström's "New Life" Library Furniture is "functional" in design,

... "functional", because, before adopting a standard, we met with librarians, architects, and educators to determine their needs and fulfill them.

... "functional", because "New Life" Library Furniture is sectionalized in construction—can be installed in any one of a number of combinations using stock units and can be added to as conditions require.

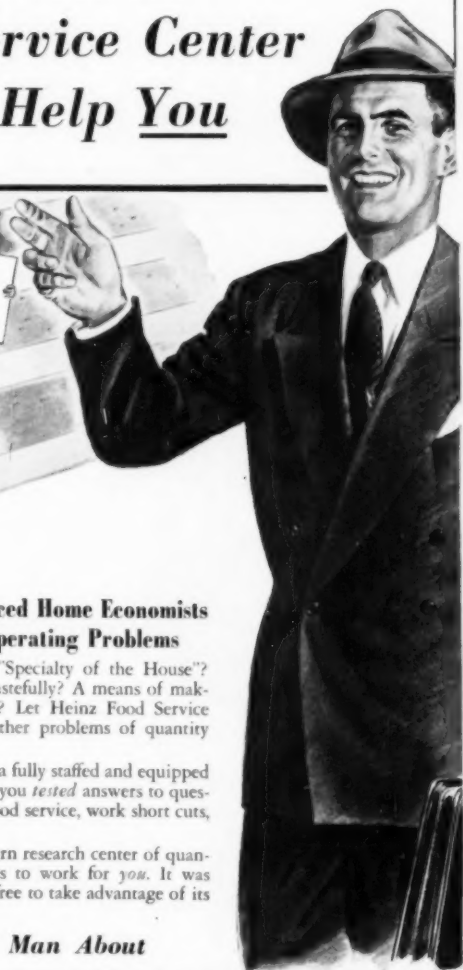
Functional design is not limited to any one era or period. "New Life" Library Furniture, because of the simplicity of its functional design, harmonizes with buildings new or old.

If you're planning to purchase library furniture, design is one of the elements you will want to investigate carefully. Company policy, furniture construction and quality are important elements, too. Our Catalog L-50, available upon request, will give you some details. Our field representative can give you many more. Request that we have him call.

MANUFACTURERS OF *New Life* LIBRARY FURNITURE



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**Your Heinz Man**  
*How Heinz*  
**Food Service Center**  
*Can Help You*



**Let HEINZ Staff Of Experienced Home Economists  
 Help You Solve Tough Operating Problems**

**N**EED A DISH to dramatize as "Specialty of the House"? Tested ways to use leftovers tastefully? A means of making the most from plentiful foods? Let Heinz Food Service Center help you with these and other problems of quantity food service!

**The Heinz Food Service Center** is a fully staffed and equipped quantity kitchen. It is ready to give you *tested* answers to questions about menu planning, faster food service, work short cuts, use of leftovers, cutting waste, etc.

**Let your Heinz Man** put this modern research center of quantity cookery and kitchen economics to work for *you*. It was established for your benefit, so feel free to take advantage of its many services.

*Ask Your HEINZ Man About*



**HEINZ  VARIETIES**

**YOU KNOW THEY'RE GOOD BECAUSE THEY'RE HEINZ!**

## WHAT'S NEW . . .

### Insect Control Sprays

A new line of pyrethrin-synergist sprays for insect control is now being made available. Formulated especially for use with cold, mechanical, automatic microsol type dispensers, the sprays are the result of research with chemists, entomologists and independent testing laboratories. Experiments and tests to develop the sprays were followed by actual use tests in food establishments.

Pyrethrins with modern synergists provide safe and effective insect control without danger of food contamination. Results have proved to be instantaneous and complete with 50,000 feet of space effectively treated in eight minutes with a standard microsol unit. A smaller unit is available to treat 10,000 cubic feet in approximately five minutes. Dispensers for the new sprays are also available from the spray manufacturer. **The Tanglefoot Co., Dept. CUB, 318 Straight S. W., Grand Rapids, Mich. (Key No. 477)**

### Twin Coffee Urns

The new Seco Twin Space Saver Coffee Urns are of stainless steel in streamlined square design with round corners. They are constructed to rigid specifications and are furnished with muslin bags and square stainless steel wire

rings, self-closing water inlet valve, Wyott Sanitary coffee and water faucets and square liners of stainless steel and are sanitary and unbreakable. Thermostat heat control is optional as is the thermometer hot water temperature gauge. Bottoms are of Monel Metal



with all seams electrically seam-welded and the enclosed base has full space allowance for burners, switches and connections.

The twin hinged cover gives access to each liner without necessitating cover removal when making coffee. The coffee is drawn out through seamless stainless steel tubing, thus keeping coffee flavor uncontaminated. They are available for gas, electric or steam operation

(Continued on page 86)

and in four sizes. **Southern Equipment Co., Dept. CUB, 5017 S. 38th St., St. Louis 16, Mo. (Key No. 478)**

### Rust Inhibitive Coating

A new rust inhibitive primer and finish coat is being introduced which normally dries within ten to fifteen minutes. It has many of the rust inhibitive features of Totrust plus the quick drying feature and weather resistance. The new coating has excellent adhesion, even over smooth aluminum and galvanized surfaces, and is designed for either interior or exterior finish. **The Wilbur & Williams Co., Dept. CUB, 130 Lincoln St., Brighton 35, Mass. (Key No. 479)**

### Lamidall Moldings

Wood-grain moldings to match perfectly any Lamidall wood-grain wall panels are now available. The new moldings are made of extruded aluminum with a decorative plastic laminated surface. Their use provides a continuous wall pattern effect with no noticeable break. They are produced for use with 1/4 inch thick Lamidall panels for walls, ceilings and top surfaces. **Woodall Industries, Inc., Dept. CUB, 3500 Oakton St., Skokie, Ill. (Key No. 480)**

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AND  
*Smart*

AMERICAN  
CHAIR COMPANY  
FURNITURE



Another Fine  
**Wall-Saving Chair**  
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**Offers Women the  
BETTER WAY to Dispose  
of Sanitary Napkins**



**WOMEN PREFER**

the SANIBAG method of disposing of sanitary napkins. Once introduced to Sanibag, they accept it as the quickest, cleanest and most discreet disposal method. Discomfort and personal distress can be among the greatest enemies of successful learning.

**EASY ON PLUMBING**

Sanibags reduce embarrassing toilet stoppages that too often occur in women's lavatories. . . in fact, Sanibag service costs so little that it pays for itself many times over in reduced plumbing bills and washroom maintenance. Used by hundreds of schools, dormitories and sororities.

Why not investigate the advantages of Sanibag now?

Send for free samples and complete information. When you write, please include your washroom supply merchant's name and address.

**Buy from** *Beier & Company* 709 SOUTH GREEN STREET CHICAGO 7, ILLINOIS

# Here's three-way help for educators with an RCA School Sound System



## 1. Helps in administration

RCA Sound gives you instant voice contact with any or all classrooms. Less lost time. Fewer assemblies. And complete coverage for vital instructions in emergencies.



## 3. Helps in student activities

RCA Sound gives students a new medium for group activity. Plays, debates, round-table forums . . . all these and more are possible via an RCA Sound System.



## 2. Helps in teaching

RCA Sound brings the whole world of drama, music, and history into the classroom. Students learn faster because sound makes the subject more interesting.

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Put in the best when you put sound in your school. Put in RCA . . . world leader in sound. Every RCA System is tailor-made to your requirements. Central console is "unit-built" for flexibility, for easy expansion later. Conforms to rigid standards of U.S. Office of Education and Radio and Television Manufacturers' Association. Entire system is backed up by RCA . . . with service available from RCA Service Company, if desired.

### Send coupon for Sound Survey . . . now

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Without obligation, please arrange to have my school (as checked below) surveyed for sound.

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|---|---|
| <input type="checkbox"/> Grammar School | <input type="checkbox"/> 5 to 10 rooms  |
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| <input type="checkbox"/> College        | <input type="checkbox"/> Over 50 rooms  |

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CITY \_\_\_\_\_ STATE \_\_\_\_\_



**SOUND PRODUCTS**

**RADIO CORPORATION  
of AMERICA**

ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N. J.

In Canada: RCA VICTOR Company Limited, Montreal



## WHAT'S NEW...

### Painting Tool

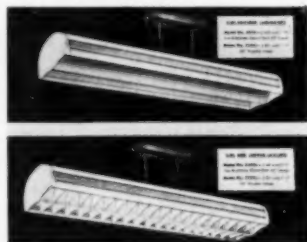
A new painting tool has been developed through the use of the man-made taper in the scientifically designed bristle, "Neoceta." The new brush permits faster, more efficient application of wall paints with less effort. Known as the FleetWing Wall Coater, the tool utilizes a locked-in construction of specially engineered paint brush bristles. It has additional paint-carrying facilities and a built-in paint reservoir.

The new coater has no heel, cylinder or cover to clog up and cause dripping. It is versatile, light in weight and requires less effort to cover large wall areas while proving efficient for corners, window frames and in reaching difficult areas. The specially engineered handle, clamped in place, permits an easy, free-swinging stroke. The FleetWing Wall Coater may be used for applying any type of flat or gloss wall paint, including latex, resin emulsion and other water thinned paints. Pittsburgh Plate Glass Co., Dept. CUB, 632 Duquesne Way, Pittsburgh 22, Pa. (Key No. 481)

### Sovereign Luminaires

A complete range of proper lighting for educational institutions, offices, public buildings and other structures is pro-

vided in the new Sovereign line of high-efficiency luminaires. There are ten luminaires in the new line which offers simple installation and low cost main-



tenance. The new two-lamp units are available in 48, 60 and 96 inch lengths and in five lamp types: T-12 medium Bi Pin, T-12 single pin Instant-Start, T-17 Low Brightness, T-17 Krypton and T-12 Slimline.

All units have one piece die-formed 20 gauge sheet steel body channels, finished in heat resistant hard white baked enamel. An elliptically shaped reflector of special design provides smooth light distribution over the entire illuminated area. Easy relamping is assured with the two position "Lock-louwer" feature. All models may be flush or suspension mounted, individually or in continuous rows. They come completely wired,

(Continued on page 88)

ready for line lead connections, and operate on 110-125 volts, 60 cycle A.C. The entire line is Underwriters' approved and Fleur-O-Lier certified. Mitchell Manufacturing Co., Dept. CUB, 2525 N. Clybourn Ave., Chicago 14. (Key No. 482)

### Reach-In Freezer

The new Jordon upright Reach-In Type Freezer for frozen food storage has a total storage capacity of 15 cubic feet or approximately 500 pounds of food. A quick-freezing ice cube tray shelf with five ice cube trays is included in the Jordon Model UF-15. The unit is engineered with refrigerated freezer plate shelves which puts every food package either in direct contact with a freezing surface or in close proximity to it.

The new UF-15 requires a minimum of floor space, is 72 inches high, 40 inches wide and 31 inches deep, including door and hardware. It permits easy cataloging of contents and a closer check of inventory. All food is within convenient reach and at eye level. The freezer cabinet has a continuous 6 inch blanket of Fibreglas insulation and is refrigerated by a hermetically sealed refrigeration system. Jordon Refrigerator Co. Inc., Dept. CUB, 58th and Grays Ave., Philadelphia 43, Pa. (Key No. 483)

**REMOVE LIME  
AND HARD WATER FILM  
FROM FOOD HANDLING EQUIPMENT**

with **STER-KLEEN**

**NEWER TYPE ORGANIC\* ACID DETERGENT**

*Glistening*



**GLASSES  
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SILVERWARE  
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STAINLESS  
STEEL  
EQUIPMENT**

No Toweling Necessary  
\* Mild — For Hand Use

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**KLENZADE PRODUCTS, Inc.**  
BELOIT, WISCONSIN

Klenzade Ster-Kleen brings a new sparkle of cleanliness to food and beverage utensils. Expressly developed for hand cleaning of glasses, silverware, fountains, and stainless steel equipment. Removes and prevents hard water spots; dissolves lime film. Removes milkstone from baby-bottles. Compatible with quaternary ammonium sanitizers. Standard detergent in institutions, hospitals, restaurants, hotels everywhere. Easy to use; rapid action. Write for complete facts.

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**WOOD or MAGNESIUM**

**SMARTLY STYLED**, beautifully finished, comfortable and roomy chairs that fold. Built for hard, constant use. No glued joints between back and seat frame. Rastetter Steel Hinge and Brace gives extra strength. Many pleasing styles and finishes to match any interior.

Fold compactly.  
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FOLDING CHAIR  
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**LOUIS RASTETTER and SONS Co.**

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ESTABLISHED 1881 • FINE FURNITURE THAT FOLDS

# Yes... I'm a Copy-cat!



...and now  
teaching  
is fun!

"Sure, I crack down on 'copy-cats' who peek at others' papers and 'crib' answers. Yet recently I, even I, peeked into the methods of Miss Mayhew. Where I felt drab and scattered, she was full of bounce. Where I toiled to do a good job, her classes were bright as buttons, seemingly by themselves. So—I peeked. And I've copied her answer: DITTO LESSON MATERIALS, used freely!

"Now it's easy to tutor the laggard, challenge the precocious, stimulate everybody's interest. Now my teaching is coordinated; I have arrived at smooth, equalized class progress. Now I have time and energy for self-improvement and really creative teaching... and HOW much better I feel!

"As a spring tonic for teacher and classes,

I recommend DITTO Lesson Materials!"



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No stencil, no mat, no inking, no make-ready. Up to 300 clear copies made directly from anything you type, write or draw. Makes 120 bright copies a minute, in 1 to 4 vivid colors at once. Finger-tip "Magic" Copy Control assures all-over intensity of every copy, on any weight paper or card from 3" x 5" to 9" x 14". See DITTO in action—ask for FREE demonstration.

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## WHAT'S NEW ...

### Radiation Detector

A precise detector of atomic radiation is offered in the "dosimeter," a super-sensitive type of glass that can be worn by those working in atomic research. Measuring about 1 inch square, the glass "dosimeter" reveals the extent of exposure by the amount of orange fluorescence it emits when viewed under "black light." As a result, precise treatment, depending on the degree of exposure, can be prescribed immediately or weeks after exposure to the rays. The new detector is being developed by U. S. Navy scientists with the assistance of chemists at Bausch & Lomb Optical Co., Dept. CUB, 635 St. Paul St., Rochester 2, N. Y. (Key No. 484)

### Spirit Duplicator

Material from post card size to 8½ by 11 inches can be printed on the new Master Portable Spirit Duplicator. As many as five colors may be printed at one time without the use of stencils, ink or gelatin. The master can be prepared by typing or by writing with a ball point pen. As the machine is operated, the impression paper is moistened by rollers with a clear spirit which picks up carbon from the master.

The unit is compact and portable,

weighing only 12 pounds, and is equipped with a case so that it can be carried conveniently. Operation is sim-



ple and easy and the duplicator is economical in cost. Master Addresser Co., Dept. CUB, 6500 W. Lake St., Minneapolis 16, Minn. (Key No. 485)

### Liquid Detergent

Norinz is a new liquid detergent floor cleanser which eliminates the need for rinsing. It is the result of years of laboratory research and field tests. It restores original luster and beauty to asphalt and rubber tile and is equally effective when used on terrazzo, linoleum, cork, mastic and wood.

Norinz can also be used safely for

many other kinds of cleaning. It quickly and easily cleans woodwork, furniture, beds, desks and walls as well as floors. It can be used in hard or soft water and leaves no soap scum. Norinz is available in 5 gallon pails and in 15, 30 and 55 gallon drums. J. F. Kerns Co., Dept. CUB, 350 W. Ontario St., Chicago 10. (Key No. 486)

### Prefinished Wall Paneling

Marlite Velwood is a new, low cost, prefinished wall paneling which reproduces the richness and warmth of fine woods. It is available in four fully-finished authentic wood grains: blond mahogany, red mahogany, silver walnut and brown walnut. The new wall covering is a hard, flexible plastic-finished panel. The manufacturing process permanently fixes the finish and seals the surface against grime, grease, mild acids, alkalies, smudges and stains. The paneling is easily wiped clean with a damp cloth, thus minimizing maintenance time.

The new wall panels are easily installed and may be put up over old or new walls. No finishing is required and the material is easy to cut and fit. It provides an economical, effective means of creating interiors of beauty and utility. Marsh Wall Products, Inc., Dept. CUB, Dover, Ohio. (Key No. 487)

(Continued on page 90)



## FILM SEPARATOR RACK

**PROTECTS  
YOUR  
FILM!**





**RK 250**

Ideal for School Film Libraries. Seven tiers of Separator Rack holds 250-400 feet 16mm reels. Many models to choose from.

For complete Film Equipment: Film Cabinets, Rewinds, Splicers, Projection Tables, Editing Aids, Reels-cans

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Patented

The Draper X-L unit shown above provides for windows of unlimited width



Shades are mounted to a heavy gauge steel shield



Offset brackets give shade 6" overlap

**THERE IS A DRAPER DARKENING SHADE FOR WINDOWS OF ANY TYPE OR SIZE**

**X-L**—For extremely wide and multiple windows.

**PAKFOLD**—One set of demountable shades may be moved from room to room.

**LITE-LOCK**—Roller box and side channel equipment for laboratory installations.

**SKYLIGHT**—A rugged and efficient unit.

**WRITE TODAY** for our latest 20 pg. catalog, "Correctly Controlled Daylight"—with cloth samples, etc.

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# The Burlington School System

*chooses the Wakefield fluorescent Star*



Micklewright & Mountford, Architects

*for all new and relighted  
classrooms of the City of  
Burlington, New Jersey,  
School System*



THE STAR has a translucent Plaskon reflector which completely shields the fluorescent lamps. When the lamps are lit the reflector and the ceiling above it are of approximately equal brightness. Thus glare, both direct and reflected, is reduced to a minimum.

In the City of Burlington's drive to "build new and modernize the old" a vigorous committee, sparked by the leadership of Superintendent Joseph W. Howe, made actual classroom tests of various lighting fixtures. As a result, the Wakefield luminous-indirect Star was selected for all classrooms in both the new and modernized buildings of the school system.

On this page are shown several of the relighted rooms. Walls were painted in soft pastel shades with good reflectances. For the first six grades, new movable blond furniture was purchased. Older furniture was sanded and brought up to no-glare, high reflectance standards. Floors were refinished in light colors or covered with light-colored tile.

With the Wakefield luminous-indirect Stars installed, the classrooms provide a comfortable visual environment, achieving brightness ratios equaling or bettering those recommended by the American Standard Practice for School Lighting.

For a copy of our 20-page booklet, "Supplementary Lighting for the CO-ORDINATED CLASSROOM", write to The F. W. Wakefield Brass Company, Vermilion, Ohio.

## Wakefield Over-ALL Lighting

**BASIC FOR CO-ORDINATED CLASSROOMS**



THE COMMODORE



THE STAR



THE WAKEFIELD CEILING



## WHAT'S NEW ...

### Product Literature

• Detailed descriptive information on the line of **Finnell Scrubbing, Waxing, Polishing and Mopping Equipment and Waxes, Sealers and Cleaners** is given in a new catalog recently released by Finnell System, Inc., Elkhart, Ind. Photographs and drawings illustrate the equipment and supply items and special features of the equipment in use are shown. (Key No. 488)

• Savings can be effected in fuel consumption and efficiency of the heating system can be increased through the restoration process described in a brochure issued by Chas. J. Riley & Sons, 6352 N. Maplewood Ave., Chicago 45. What causes the drop in heating efficiency of a heating plant and how it can be corrected are discussed in the brochure. A second maintenance problem covered is the water storage tank. How it can give far longer service when protected against rusting and pitting by **Rock-Tite Stone linings** is brought out in the text. (Key No. 489)

• The lines of air cooled and radiator cooled and marine water cooled **electric generating plants** manufactured by Universal Motor Co., Oshkosh, Wis., are listed and priced on Form SE-3 now available. (Key No. 490)

• Over sixty types and sizes of Penco lockers are described in the new 20 page **Penco Steel Locker Catalog No. L-100**. Complete specifications are given on the lockers with helpful suggestions on how to provide better clothing storage facilities while saving valuable floor space. The catalog illustrates and describes current ideas in locker room layout for maximum efficiency and lowest maintenance cost. It also covers the subject of ventilation, featuring the new Penco Air-Flow Locker which is specially designed for recessed wall-type installation in buildings equipped with complete air conditioning. Available from Penn Metal Corporation of Penna., 50 Oregon Ave., Philadelphia 48, Pa., the catalog is fully indexed and cross-referenced. (Key No. 491)

• "Your Floors and How to Maintain Them" is the title of a new booklet recently published by Multi-Clean Products, Inc., 2277 Ford Pkwy., St. Paul 1, Minn. Divided into sections, the 40 page manual gives general information on the importance of proper floor maintenance and then covers the care of asphalt tile, concrete flooring, terrazzo, rubber tile, wood and linoleum, and has a section on shampooing carpets and rugs. Multi-Clean equipment and supply items for floor maintenance are also described. (Key No. 492)

• **Blodgett Gas-Fired Sectional Ovens** are illustrated in full color in a new accordion-fold type booklet published by The G. S. Blodgett Co., Inc., Burlington, Vt. Full data on the complete Blodgett oven line are included as are many useful facts on how the units can be employed to prepare up to 70 per cent of all cooked food. (Key No. 493)

• Twenty-seven elevator interiors are shown in a new folder entitled "**Special Car Designs**" recently released by Otis Elevator Co., 260 Eleventh Ave., New York 1. It was developed to help administrators and architects plan elevator-car interiors of unusual and artistic design in keeping with the interiors of present or new buildings. (Key No. 494)

• The Durkee "Family of Food Products" for the institutional trade is discussed in a new four color folder recently released by the Institution Division of Durkee Famous Foods, 94th St. & Corona Ave., Elmhurst, Long Island, N. Y. The folder gives information on Durkee products used primarily by institutions and includes Durkee's Grade AA Margarine, Puff Pastry and Bakers' Margarine, "Stayfresh" Coconut, Vegetable Oils, Durkee's Famous Dressing, Worcestershire Sauce, Spice and Extracts, Shortening and Salad Products. (Key No. 495)

(Continued on page 92)



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Combines the fine qualities and delightful scent of Dolge premium BALMA liquid soap with Hexachlorophene, the antiseptic agent used in modern surgical soaps. Regular washing with BALMASEPTIC not only cleans thoroughly but deposits on the skin a non-irritating film which reduces bacteria as much as 95%. Here's a true deodorant for shower as well as wash-up use, insuring "round-the-clock freshness."

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Find out today how the Burroughs Sensimatic can save working hours, reduce your accounting costs, and increase efficiency. And all at a surprisingly moderate cost, too. Call your local Burroughs office or write for complete information today. Burroughs Adding Machine Company, Detroit 32, Michigan.

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## WHAT'S NEW . . .

### Methods Manuals

A special study of pencil sharpeners has been made by Donald J. Leu, B.A., M.A., for the purpose of "aiding local school personnel in receiving more efficient and economical service from their present pencil sharpeners by correct methods of usage, maintenance and location, and to guide school districts in selecting the correct machine for the intended purpose." The author starts his book, entitled **"Your Pencil Sharpener, Its Care, Location and Use,"** by stating that much has been written concerning the various units of classroom furniture and equipment but that the pencil sharpener—which in one standard classroom was observed to be used 89 times in a regular school day—has been overlooked. The booklet was published by C. Howard Hunt Pen Co., Camden 1, N. J., and carries Mr. Leu's recommendations resulting from his study. (Key No. 496)

A timely study of some of the vital needs of education and certain results of research and scientific knowledge which have aided education's growth through coordinated classroom environment, are presented in a new 20 page booklet, **"Education Grows,"** recently published by the American Seating Co., Grand Rapids 2, Mich. The booklet covers the development of school seating in connection with improved class-

room environment with resulting improvement in scholarship, vision, health and physique of the student. An up-to-date bibliography of valuable reference sources on lighting, posture and child development is included. (Key No. 497)

**"First Aids in Scrap Salvage"** is the title of a folder prepared by The International Nickel Co., Inc., 7 Wall St., New York 5. Those responsible for identifying nickel and other strategic metals for recovery, to stretch critical supplies, will find this folder most helpful. A 48 page booklet entitled **"Rapid Identification of Some Metals and Alloys"** is also available as a valuable reference source. (Key No. 498)

### Suppliers' News

Edward Don & Co., 2201 S. La Salle St., Chicago 16, distributors of institutional furnishings and food service equipment and supplies, announces the acquisition of the physical assets, general lines and good will of **The Perlman Company, Chicago**, distributors of fine glassware and china for seventy-five years.

H. J. Heinz Co., Pittsburgh, Pa., manufacturer of food products, announces the opening of its new modern Vinegar Building which is now producing Heinz White, Cider, Malt and Tarragon Vinegars.

Schieber Sales Company, 12720 Burt Rd., Detroit 23, Mich., has been organized to handle national sales of **Schieber In-Wall Folding Tables and Benches**. This equipment is designed to conserve space by providing tables and benches which can be folded into the walls when not in use, thus permitting the same space to be used for instruction or recreation, as well as for lunch room purposes. **E. Robert Haws** has been named General Manager of the new sales company.

Standard Projector & Equipment Co., Inc., manufacturer of Standard filmstrip projectors and filmstrip rewind-cleaners, announces change of address from 205 W. Wacker Drive, Chicago 6, to 7106 W. Touhy Ave., Chicago 13. **P. J. Kilday** has purchased Jack C. Coffey's interest in this company. Mr. Coffey will continue to market the Standard filmstrip library plan cabinets, visible filmstrip record systems and the selected teaching filmstrip annual through the **Jack C. Coffey Co.**, 205 W. Wacker Drive, Chicago 6.

Vulcan Hart Mfg. Co., Inc., 2006 Northwest Pkwy., Louisville 3, Ky., manufacturer of cooking equipment, announces the acquisition of the line of steam-jacketed kettles, meat roasters, coffee urns and milk pasteurizers manufactured by **Royce L. Parker Inc.**, Addison, Ill.

## DAV-SON

### "TELL-ALL"

Bulletin & Directory Boards  
A Style And Size  
For Every Need

Dav-Son Cork Back Bulletin Boards  
For Pinning Up Announcements,  
Photographs, Letters, etc.

- Indoor and Outdoor Styles
- Hardwood or Metal Frames
- With or Without Locking Glass Doors
- Many Sizes in Stock



Dav-Son Changeable Letter  
Directories For Lobby, Office  
or Outdoor Use.

- Wide Variety of Styles and Sizes
- Glass Enclosed Front
- Hardwood or Metal Frames
- Highest Quality Felt Background in Choice of Several Colors
- Many Letter Styles and Sizes

INFORMATION

Dav-Son Name Plates For  
Desk, Door or Wall Mounting

- Choice of Matching Wood Bases
- Names May Be Changed at Low Cost

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PARTICULARS AND PRICES



**A.C. DAVENPORT & SON, INC.**

ESTABLISHED 1932  
311 N. DESPLAINES ST., CHICAGO 6, ILL.

MANUFACTURERS OF BULLETIN BOARDS FOR EVERY NEED

## American Folding Chairs

NEW  
IMPROVED  
DESIGN!



### BEST FOR EVERY FOLDING CHAIR PURPOSE!

- **DURABLE**—strong steel frame, reinforced
- **SAFE**—no tipping, pinching, snagging hazards
- **COMFORTABLE**—extra-wide, extra-deep seats and backs
- **CONVENIENT**—fold quietly, quickly, compactly
- **RUBBER SHOES**—long-life, replaceable
- **SEAT STYLES**—formed plywood with durable lacquer finish; or vinyl-plastic upholstered

OVER EIGHT MILLION IN USE!

WRITE FOR  
DESCRIPTIONS  
AND PRICES

**American Seating Company**

Grand Rapids 2, Michigan  
Branch Offices and Distributors in Principal Cities

# PRODUCT INFORMATION



## Index to "What's New"

Pages 81-92

### Key

**470** Burroughs Adding Machine Co.  
Sensimatic Accounting Machine

**471** Tylac Company  
Rite Green Chalkboard

**472** Bell & Howell Co.  
Recording Projector

**473** Coyne & Dalany Co.  
Flush Valves

**474** The Oliver C. Steele Mfg. Co.  
Steeleco Shedscope

**475** United States Gypsum Co.  
Rubberized Paint

**476** The Sherwin-Williams Co.  
Washable Wall Finish

**477** The Tanglefoot Co.  
Insect Control Sprays

**478** Southern Equipment Co.  
Twin Coffee Urns

**479** The Wilbur & Williams Co.  
Rust Inhibitive Coating

### Key

**480** Woodall Industries, Inc.  
Lamidall Meldings

**481** Pittsburgh Plate Glass Co.  
Painting Tool

**482** Mitchell Manufacturing Co.  
Sovereign Luminaires

**483** Jordon Refrigerator Co., Inc.  
Reach-In Freezer

**484** Bausch & Lomb Optical Co.  
Radiation Detector

**485** Master Addresser Co.  
Portable Spirit Duplicator

**486** J. F. Kerns Co.  
Noritz Liquid Detergent

**487** Marsh Wall Products, Inc.  
Marlite Valwood

**488** Finnell System, Inc.  
Catalog of Equipment and Supplies

### Key

**489** Ches. J. Riley & Sons  
"Methods of Surface Conservation"

**490** Universal Motor Co.  
Form SE-3

**491** Penn Metal Corporation of Penna.  
Penn Steel Locker Catalog

**492** Multi-Clean Products, Inc.  
"How to Maintain Floors"

**493** The G. S. Blodgett Co., Inc.  
Gas-Fired Sectional Ovens

**494** Otis Elevator Co.  
"Special Car Designs"

**495** Durkee Famous Foods  
Institutional Food Folder

**496** C. Howard Hunt Pen Co.  
"Your Pencil Sharpener"

**497** American Seating Co.  
"Education Grows"

**498** The International Nickel Co., Inc.  
"First Aids in Scrap Salvage"

USE THIS  
CARD



*This card is detachable and is provided for your convenience in obtaining information on all items advertised in this issue. See reverse side.*

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SEC. 34.9 P. L. & E.  
CHICAGO, ILL.

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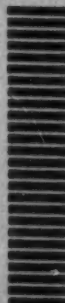
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919 NORTH MICHIGAN AVENUE

CHICAGO 11, ILLINOIS



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NAME

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INSTITUTION

ADDRESS

CITY

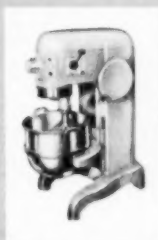
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# Clean Plate to Clean Plate

## Hobart Charts the Way to Peak Kitchen Efficiency



Plan your kitchen for superior production efficiency with Hobart products designed to bring highest standards to the job. Increased production is the watchword today—and that is based on food and kitchen machine performance!

You can find every machine shown here proudly wearing a Hobart nameplate—every one designed, manufactured, guaranteed and serviced by the oldest name in the business. You'll find most of them in a wide range of capacities and sizes—to bring you peak efficiency. And you'll find every one of them *clean in design and clean in performance*—so carefully designed and ruggedly built that many kitchen operators still use Hobart products over 20 years old. And it's seldom that any of them replace a Hobart with anything but a *new* Hobart. Let your convenient local Hobart representation chart your path to peak kitchen efficiency. Just call . . . *The Hobart Manufacturing Co., Troy, Ohio.*

Trade Mark of Quality  for over 50 years

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THE HOBART MANUFACTURING COMPANY  
TROY, OHIO

*The World's Largest Manufacturer of Food, Kitchen  
and Dishwashing Machines*



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on campus after campus, in building after building

...there is **JOHNSON** AUTOMATIC TEMPERATURE CONTROL



TRADE SCHOOL



FIELD HOUSE



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ADMINISTRATION & WELFARE BLDG.



AUDITORIUM



HIGH SCHOOL



RECEPTION CENTER

Father Flanagan's Boys' Home, Boys Town, Neb.; Rt. Rev. Msgr. Nicholas H. Wegner, Director; Leo A. Daly Co., Architects, Omaha; Wray M. Scott Co., Inc., heating and ventilating contractors, Omaha.

Long view planning is one of the wonders which Boys Town demonstrated in its inception, its buildings and its world-wide influence. To watch the growth of Boys Town — to see each building take form is to witness the determination and foresight of its leaders, who realized that they must plan for the greatest possible benefits and economies in the many years ahead.

High on the list of important services in those buildings was Johnson Automatic Temperature Control, the modern protection of health and energy and one certain means of saving thousands of dollars in fuel and labor — year after year. In the High School, Trade School and Administration and Welfare Building, Johnson *Individual Room Control* makes it possible to maintain exactly the proper temperature in each room, as required by occupancy conditions. Moreover, *Individual*

*Room Control* makes possible tremendous fuel savings.

In the Boys Town Auditorium, there are three central plant ventilating systems. The Field House employs 10 heating and ventilating units for the main arena and 9 for auxiliary spaces, while the Reception Center is served by one heating and ventilating unit as well as by unit heaters. The Dining Hall also has unit heaters. In all of these, Johnson Control is doing an important job for comfort and thrift.

If your buildings are older or if you plan new construction, the chances are that a conference with a nearby Johnson engineer will prove well worth your time. A consultation is invited, and there is no obligation whatsoever. **JOHNSON SERVICE COMPANY**, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.



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